

Decision making, politics and quality of life

How to solve problems without creating larger ones

Target audience: everyone interested,
no special knowledge necessary

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Page layout: allows easy reading
without scrolling,
even on
very small screens



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Decision making, politics and quality of life

How to solve problems without creating larger ones

Think of a problem. Global, regional or personal.
Anything.

Now consider the following statement:

Without good decision making, this problem will not
be solved well. Or not at all.

If you want to find out more, read on.

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Chapter 1

Introduction

A short one

Estimated reading time: 2 minutes

Welcome to this book about

a train of thought

connecting local and global
problems with decision making,
quality of life, certain limitations of
the human mind, political
transparency and more.

If that sounds overwhelming,
please have a closer look at the
contents pages.

This is not an academic textbook,
and you don't need to be an
expert to understand it.

Reading time is about 1 hour
for all chapters, and about
2 hours for all appendices.

Poor decision making has a serious negative impact on society and everyday life.

In my view, this fact is too often not recognized, or too easily accepted.

That is why I wrote this book (which I also want to use as the basis for a video talk series).

The **chapters** present the main train of thought, from initial problems to possible solutions.

Most chapters end with a summary page.

Material that is not essential for the main train of thought, but related and relevant, is in the **appendices**.

The unusual **page layout** serves two purposes:

- it allows **easier reading** also on a small screen
- it supports **better focus** on the text (in single page view)

Please don't let the resulting high page count put you off.

With a conventional layout, there would be just about **35 chapter pages** and about **80 appendix pages**.

Most examples in this book, and
all persons or organizations
appearing in them, are invented.

All other content is based
on facts and/or my own personal
views at the time of writing
(2010-2013, with interruptions).

I have not received any payment
or other benefits for this work.

Chapter 2

Problems. All sorts, all sizes.

Where do they come from?

The train of thought starts here.

Imagine you're in a spacecraft
and you look down on Earth.

You see a planet that has
plenty of beauty and resources:
a really nice place to live.

And you already know that
mankind has knowledge and
impressive technology.

Having all that,
why don't we all just live happy
and fulfilled lives then?

Because there are **problems**.
Global, regional, organizational,
personal ones. **Unwanted
situations or conditions**. Not
sometimes desirable 'challenges',
just plain and definitely unwanted
problems.

Just to mention
some examples
(roughly sorted by
scope):

Problems

The last example is
intentionally a
relatively trivial one.

Global

Overpopulation

Manipulation of public opinion

Diseases

Pollution

Extinction of species

Economic instability

Overtaxing of natural resources

Crime

Road traffic deaths

War

Human rights violations

Hunger

Public debt

Religious and ethnic conflicts

Poverty

Insufficient education

Public sector mismanagement

Corruption

Industrial accidents

Corporate mismanagement

Bad internal communications

Lack of clear strategies

Internal conflicts

Lack of loyalty

Expenses higher than income

Addictions

Unemployment

Not enough time for your family

Important files lost, no backup

Regional

Organizational

Personal

Fig. 2.1 : problem examples

You could easily get more examples from any news source.

Our quality of life would be much better without all these problems.

(For details, see appendix A, p. 169)

But where do they come from?

Well. There is a large variety of them, and many are clearly not related to each other.

However, almost all problems have one factor in common.

They are the result of bad decisions.

Please let that sink in for a moment.

Almost all problems are caused by bad decisions.

Bad decisions made by human beings, including you and me.

Let's have a look at two examples.

The first one is rather straightforward. The second one is much more complex.

Example 1: 'Important files lost,
no backup'

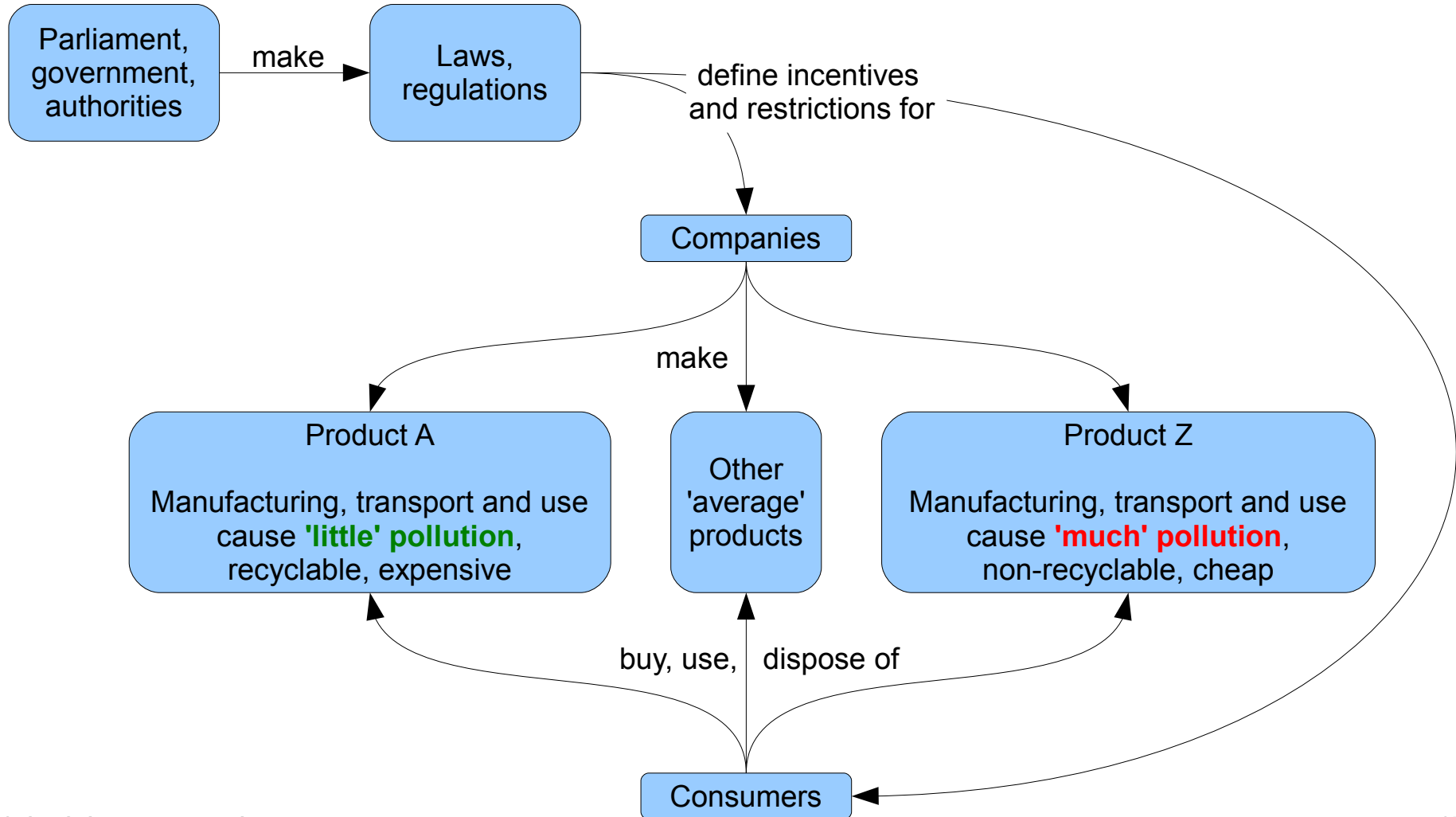
Every user of electronic devices should know that fatal errors sometimes occur. A user who does not back up important files has in fact **made a decision**. If an error later destroys the original files, **this decision causes a problem**.

Example 2: 'Pollution'

Pollution (the release of unwanted substances into atmosphere, water or soil) occurs in many different contexts.

Let's have a look at **one** of them: **pollution caused by manufacturing, transport, use and disposal of consumer products**.

Politics

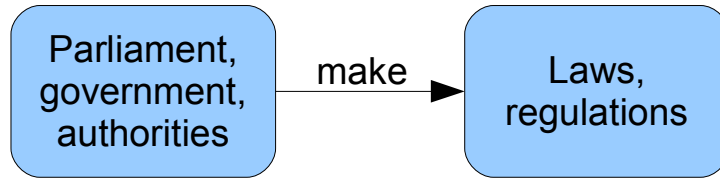


Industry

Citizens

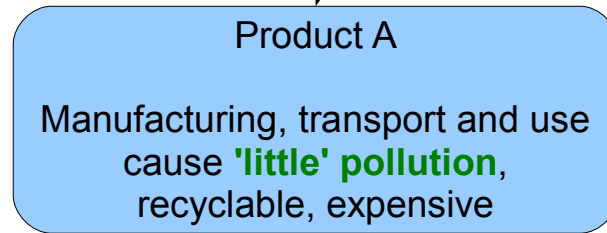
Fig. 2.2a : pollution / decisions example

Politics



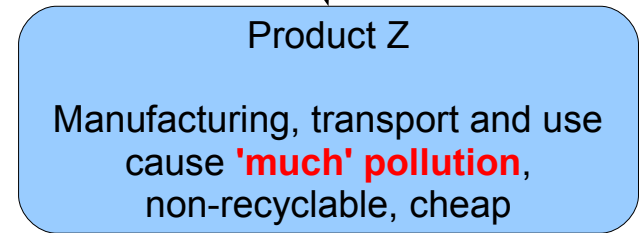
Industry

Companies



make

Other 'average' products



Citizens

buy, use, dispose of

Consumers

Here is the problem, but where are the decisions?

Fig. 2.2b : pollution / decisions example

Politics

Industry

Citizens

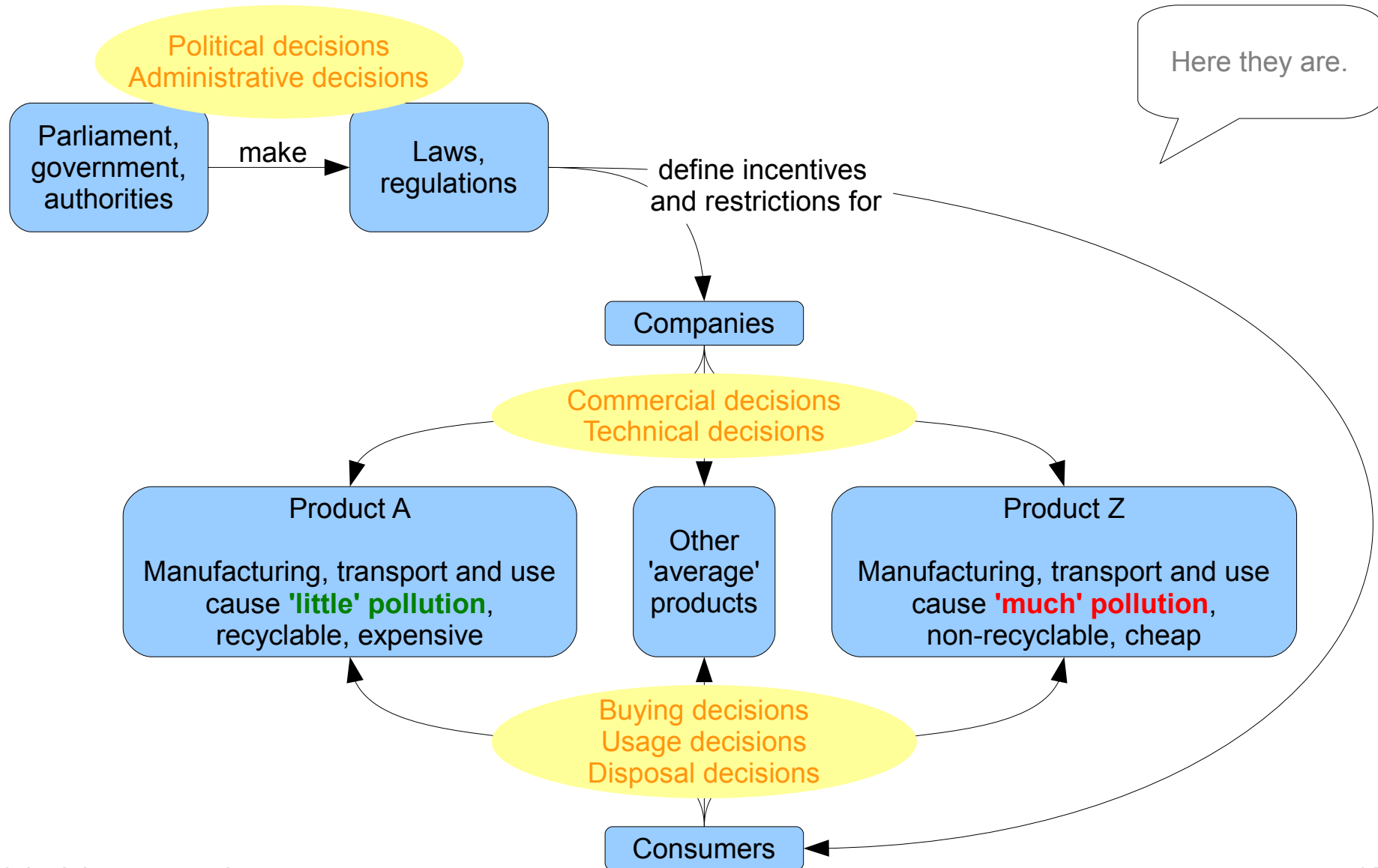


Fig. 2.2c : pollution / decisions example

These decisions together, some of them bad, result in this particular pollution problem.

With better decisions, the problem would be smaller.

With really good decisions, there would be no problem.

This leads to **first coarse definitions** of 'good' and 'bad' decisions:

**Bad decisions cause problems.
Good decisions avoid or solve problems.**

(I will discuss this further in chapter 3)

More than
halfway
through.

Chapter 2 progress

Intro	done
Problems as a result of decisions	done
Two examples	done
First definitions	done
Problems unrelated to decisions	up next
Chapter 2 summary	

Are there problems that are not
caused by bad decisions?

In the domain of politics: **no.**

In the domain of industry: **no.**

In the domain of the individual:
yes. Not many, though.

In politics, the political institutions
combined have ultimate power,
control and responsibility.

Hence, nobody could stop them
from making good decisions.

But of course there are always
excuses.

Such as the common 'the current situation does not permit' excuse. However, the current situation is mostly a result of past political decisions.

Also quite common is the 'these events were unforeseeable' excuse. But such events have usually been predicted before, and these predictions have been ignored or discarded.

In industry, the company managers have to live with the consequences of decisions made by others, such as political institutions, competitors, employees and customers.

Within these boundaries they also have many degrees of freedom to make good or bad decisions.

For individuals, the situation is again different. Unlike political institutions or companies, individuals are human beings.

Having human minds and bodies exposes us to problems such as illnesses.

These are **not** consequences of our own, or anyone else's, decisions.

However, a number of health problems, and almost all other individual problems, are also direct or indirect results of bad decisions.

Decisions made by ourselves, or by politics, or by industry.

What about natural disasters?

They cause problems, and surely nobody actually decides to have earthquakes, landslides, floods, hurricanes and so on?

Well. Let's have a look at the necessary ingredients for this problem.

Problem ingredient list

1. an area prone to natural disasters
2. a government that **decides** to let people inhabit this area
3. people who **decide** to stay there
4. a government that **decides** not to enforce safe building standards
5. people who **decide** to stay in unsafe buildings

4 out of 5 necessary ingredients depend on decisions.

Note that usually the government is in a better position to avoid this problem than individuals are.

Chapter 2 summary

Earth is a beautiful planet, and mankind has enough resources, knowledge and technology.

Do we all live happy and fulfilled lives then?
No. Why not?

Because there are problems. All sorts, all sizes.
But almost all have one factor in common.

Almost all problems are caused by bad decisions.

In simple cases, this is obvious.
In complex cases, it is not.

Chapter 3

What is a 'good' or 'bad' decision?

A definitions intermezzo

Chapter 2 introduced these definitions:

Bad decisions cause problems.

Good decisions avoid or solve problems.

Chapter 3 is for readers who think these definitions need refinement and more explanation.

Other readers could proceed directly to the chapter 3 summary (on p. 44).

This chapter is probably the one that is hardest to read in this book.

Chapter 3 progress

Intro done

Improved definition of bad decisions up next
... and of good decisions

'Good' or 'bad' ?
... viewpoints
... time frames
... value systems

Good political decisions

Types of decisions

Chapter 3 summary

In some situations bad decisions **make problems possible**, but do not cause them directly.

Example from chapter 2: the government decides not to enforce safe building standards. A **foreseeable event** (natural disaster) then **triggers the problem** (people killed by collapsing buildings).

Again other situations will always end in problems. In these cases, **bad decisions lead to larger than necessary problems.**

Example: imagine a burning house. Depending on the decisions the people inside and the fire fighters make, the outcome will be bad enough, or disastrous. A really good outcome is impossible.

With this in mind, a more accurate definition of bad decisions is:

Bad decisions, combined with foreseeable events, cause larger than necessary problems.

Alternatively:

Bad decisions make worse than necessary outcomes possible.

The corresponding definition of good decisions is:

Good decisions prevent problems from happening or from becoming larger than necessary.

Wherever circumstances allow, good decisions lead to situations that are better than they were before.

Chapter 3 progress

Intro	done
Improved definition of bad decisions	done
... and of good decisions	done
'Good' or 'bad' ?	up next
... viewpoints	
... time frames	
... value systems	
Good political decisions	
Types of decisions	
Chapter 3 summary	

Whether you regard something (plan, action, event, object or other) as 'good' or 'bad' depends on your viewpoint, time frame and values.

About the **viewpoint**: you will normally be inclined to regard something beneficial to **yourself** as 'good' in **general**, independent of what that something means to others.

Unless you are willing and able to adopt **other** viewpoints, your judgement will be very subjective, which makes it **invalid** for everyone else.

Example: Alice buys a box with old books cheaply from Bob. One book turns out to be worth a lot of money. From Bob's viewpoint, the transaction was 'bad'. From Alice's viewpoint, **the very same transaction** was 'good'.

About the **time frame** (or **time horizon**): you will often judge something differently depending on how far you are looking into the future.

Only a wide time frame allows you to **see the whole picture**.

Note that **some people can't** (young children for instance, but not only them), and **some don't want** to use a wide time frame.

Example:

With a **narrow (short-term) time frame** you would regard having a dentist repair small holes in your teeth as 'bad' because of immediate pain and expenses.

With a **wide (long-term) time frame**, you would regard the **very same action** as 'good' because it saves you from much more pain and expenses later on.

About **values**: a value is something you rather consistently consider to be important for your life, and worth striving for.

You may have hundreds of them, without being aware of them all.

Some you have chosen yourself, others depend on your upbringing and social environment.

Examples (no particular order):

- own well-being
- well-being of family and friends
- well-being of others
- peace
- living according to your spiritual faith
- preservation of nature
- honesty
- own social status
- fairness

Some values contradict each other, some are more important than others.

Their hierarchical order forms a **value system**.

Every time we judge something, we do that against our value system.

This evaluation process is often not a conscious one, hence not transparent.

On top of that, we are usually not honest about our values. We tend to deceive ourselves and others.

Example: very few people would say that their **own personal well-being** is their highest value. Yet there are many people acting this way.

Chapter 3 progress

More than
halfway
through.

Intro	done
Improved definition of bad decisions	done
... and of good decisions	done
'Good' or 'bad' ?	done
... viewpoints	done
... time frames	done
... value systems	done
Good political decisions	up next
Types of decisions	
Chapter 3 summary	

What does all this mean for **political decisions**? Or other ones which affect the general public?

Such decisions are 'good' if:

- all relevant **viewpoints** were considered
- the **time frame** includes future generations of citizens
- they score high on generally accepted **values**
- the decision process was **transparent** for the general public
- and, of course, they match the **definition** established earlier in this chapter

Chapter 3 progress

Intro	done
Improved definition of bad decisions	done
... and of good decisions	done
'Good' or 'bad' ?	done
... viewpoints	done
... time frames	done
... value systems	done
Good political decisions	done
Types of decisions	up next
Chapter 3 summary	

There are many different types of decisions (or choices).

What do they have in common?

The decision maker (e.g. an individual or a political institution) has at least two **options** available, actively or passively **chooses** one of them, and thus causes a particular **outcome**.

What sets them apart?

Decision types can differ in any of numerous aspects.

Some important aspects are:

- the **number of people** affected
- the **seriousness** of the outcome
- the **reversibility** of the outcome
- the **awareness** of the decision maker

'Big' political decisions usually affect many people, and have serious consequences for at least some of them.

Example: budget decisions.

'Small' personal everyday decisions affect perhaps only one person, and often have no serious consequences.

Example: the choice between a cup of tea or coffee.

In all cases the decision maker can be **aware of his decision making act, or not.**

This may sound surprising. Can you make decisions without being aware of this?

Yes. At any waking moment you have **several options** for what to do next. But very often the act of choosing an option is performed subconsciously, which means **you are not aware of it.**

You can however become aware of your decisions in two ways:

Either your subconscious mind finds no default option for the current situation, and **hands control over** to your conscious mind,

or you consciously decide to **raise your level of awareness.** Meaning basically that you pay more attention to what you are doing.

Although they have no subconscious, decision makers such as **political institutions** can also have problems with insufficient awareness.

If so, they in fact make **passive 'no action required' decisions** without knowing it, instead of considering and choosing other (possibly better) options.

Considering all available options, however, is a very important part of good decision making.

Chapter 3 summary

Bad decisions, combined with foreseeable events, cause larger than necessary problems.

Good decisions prevent problems from happening or from becoming larger than necessary.

Wherever circumstances allow, **good decisions** lead to situations that are better than they were before.

What is 'good' or 'bad' depends on viewpoint, time frame and values.

Reluctance to face a situation, or to consider available options, also counts as decision.

Chapter 4

What happens when bad decisions are made frequently?

About circles and spirals

The next pages show a basic diagram which answers part of the chapter title question.

For **this** diagram I pretend that I am in a position where:

- my decision making does **not** lead to fundamental changes in my environment
- I have to face the consequences of my own decisions

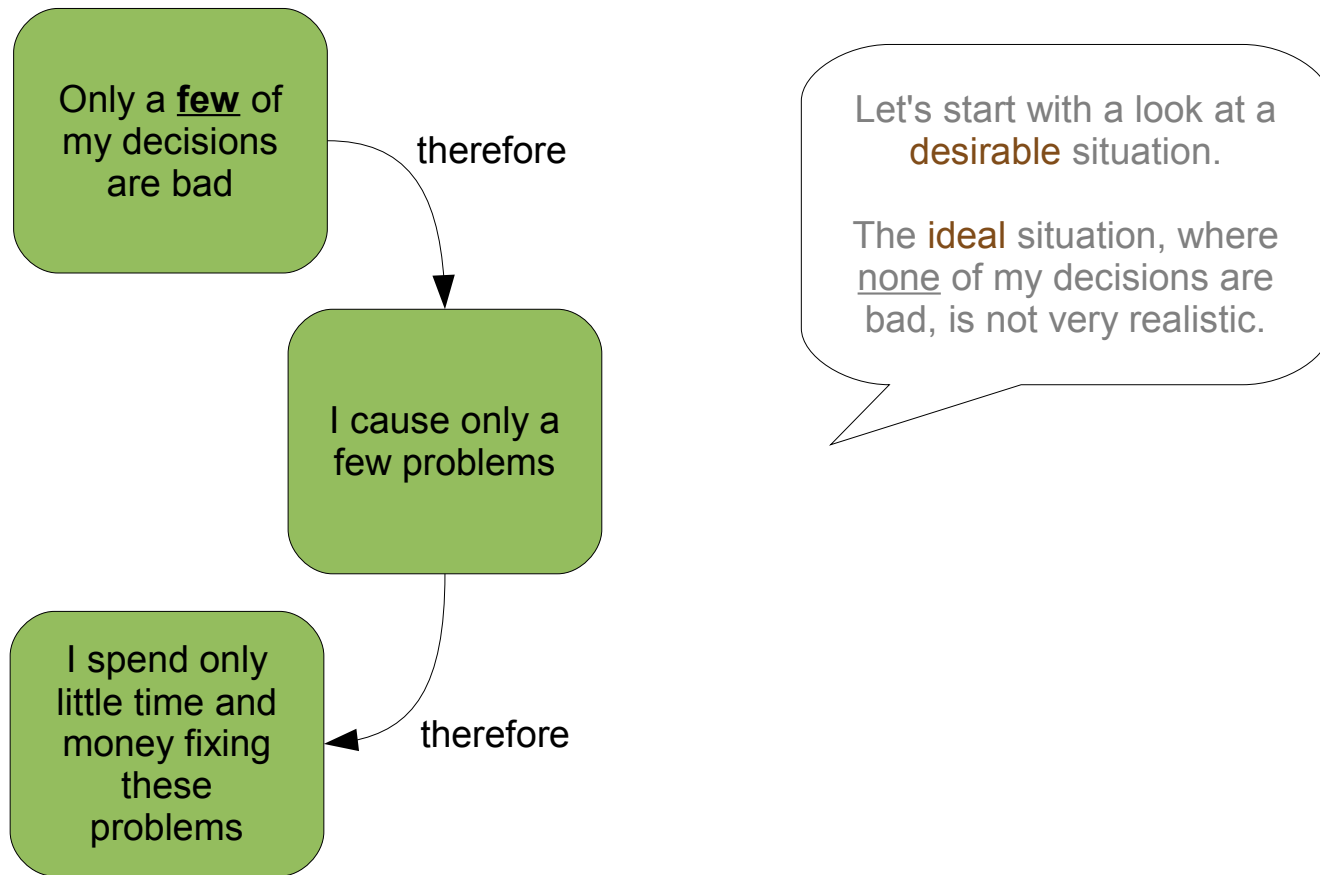


Fig. 4.1a : basic decisions-consequences circles

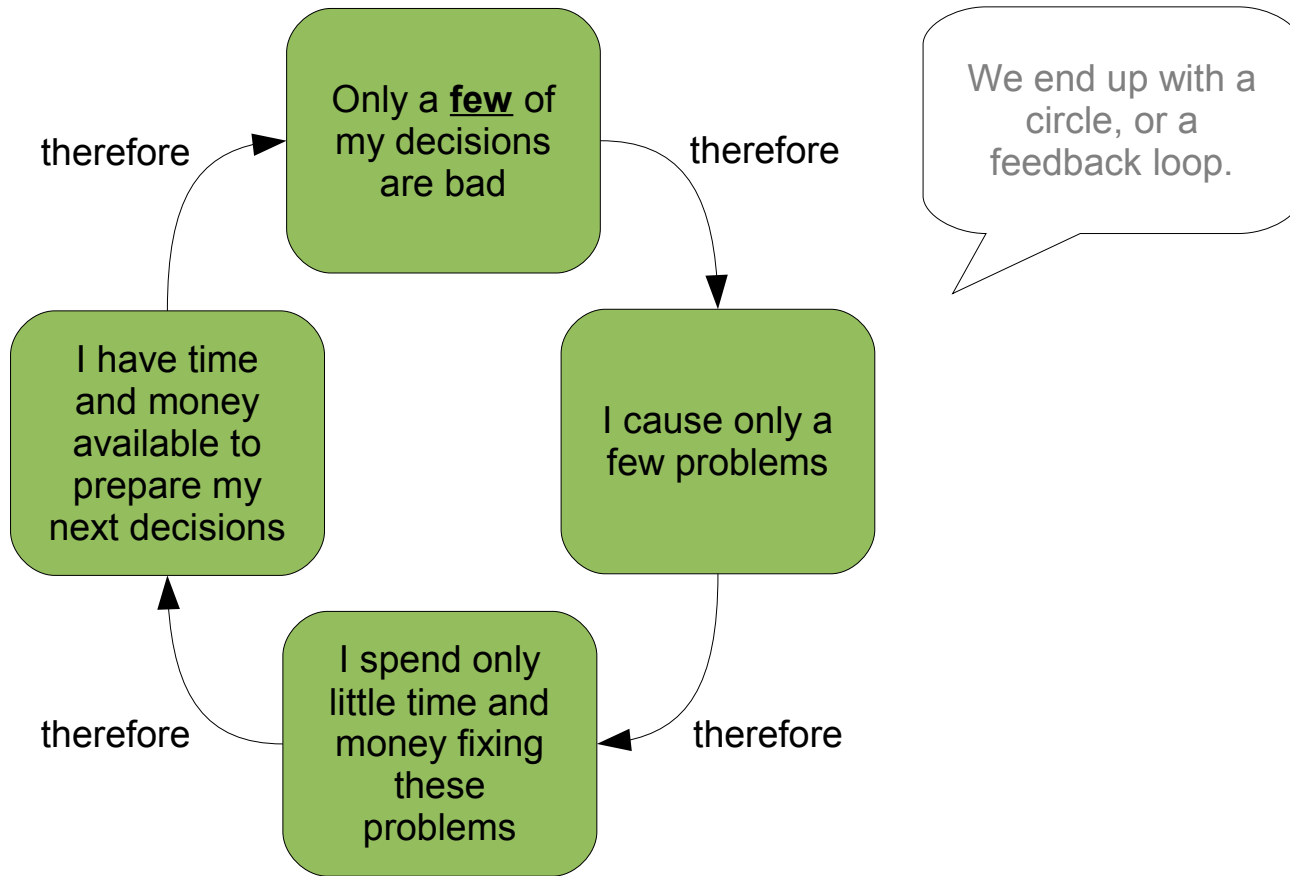


Fig. 4.1b : basic decisions-consequences circles

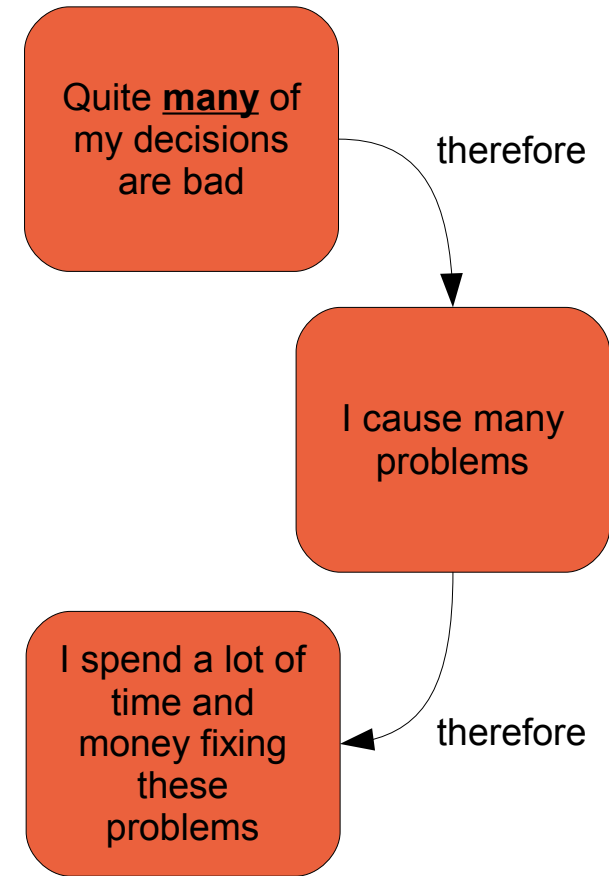
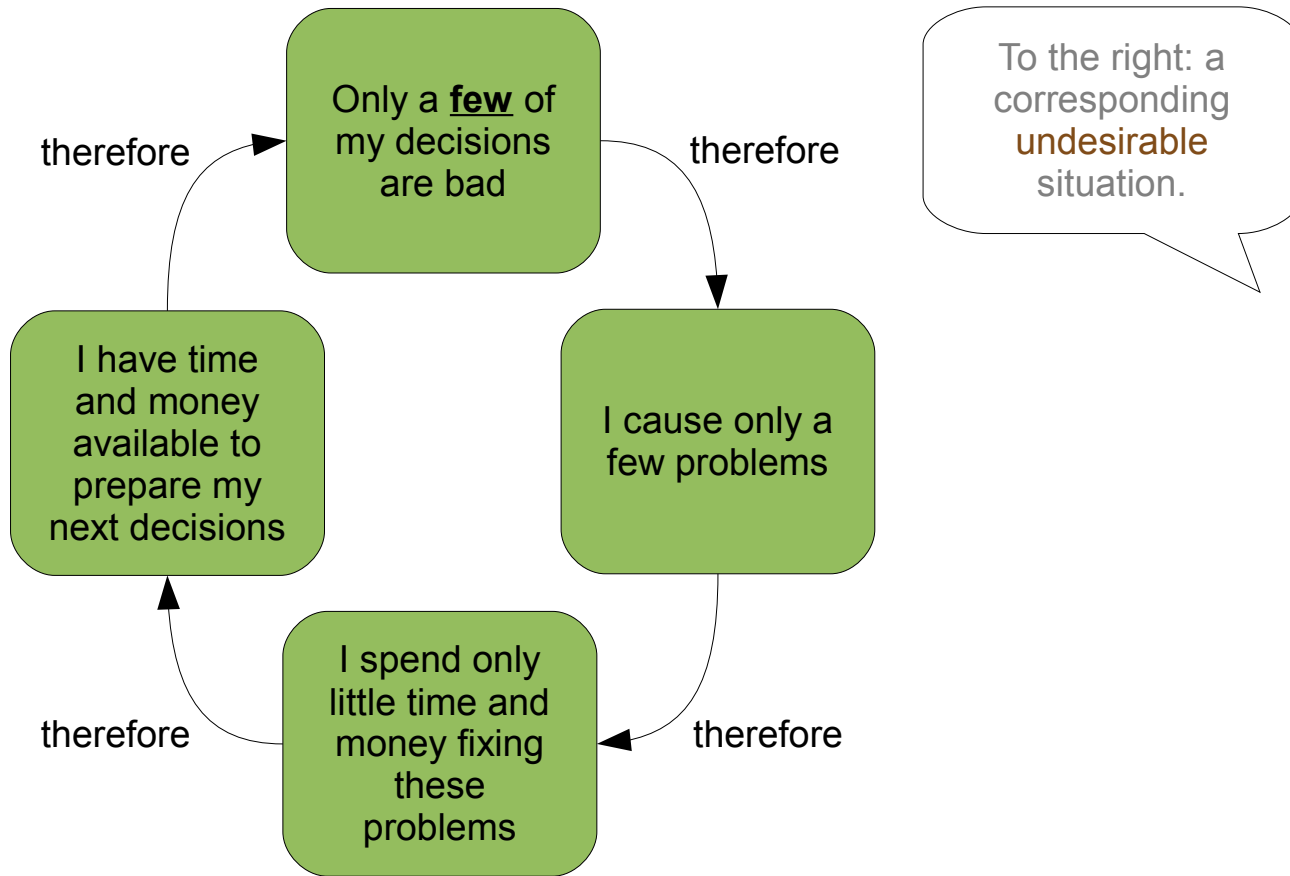
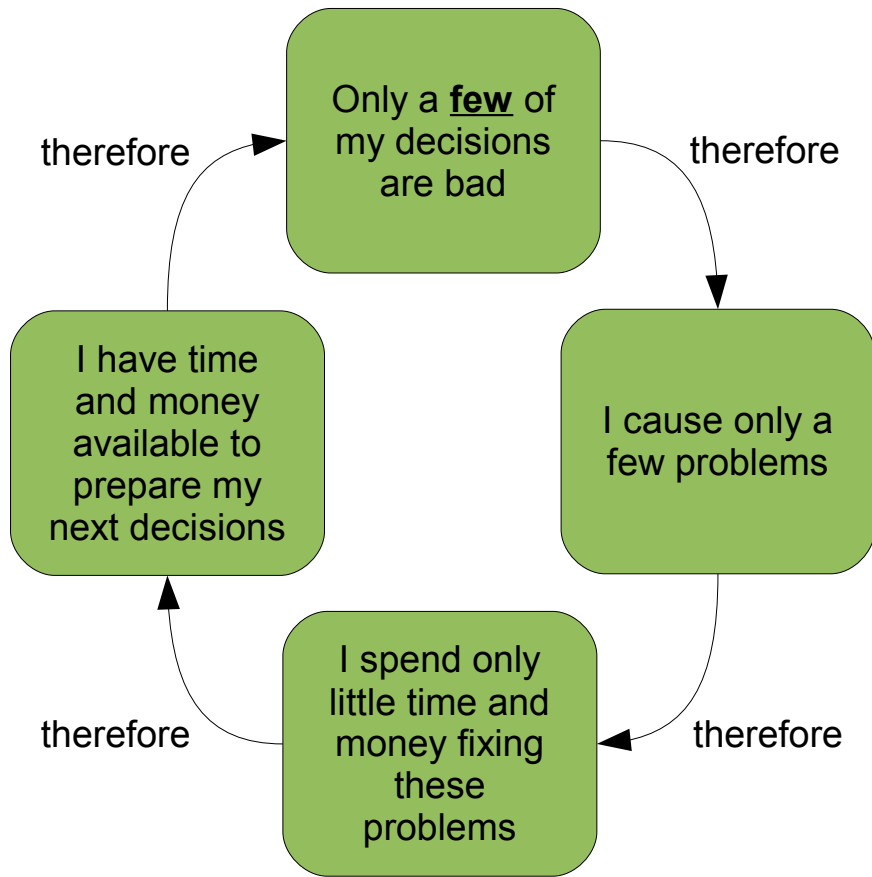


Fig. 4.1c : basic decisions-consequences circles



Another circle, or feedback loop.

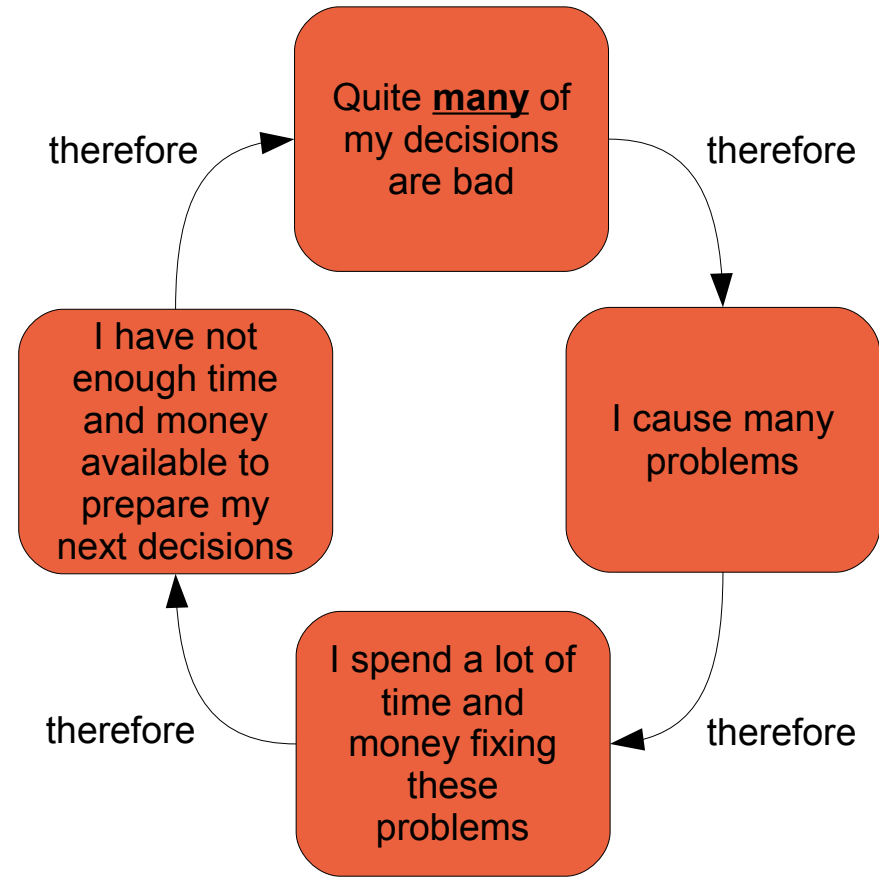
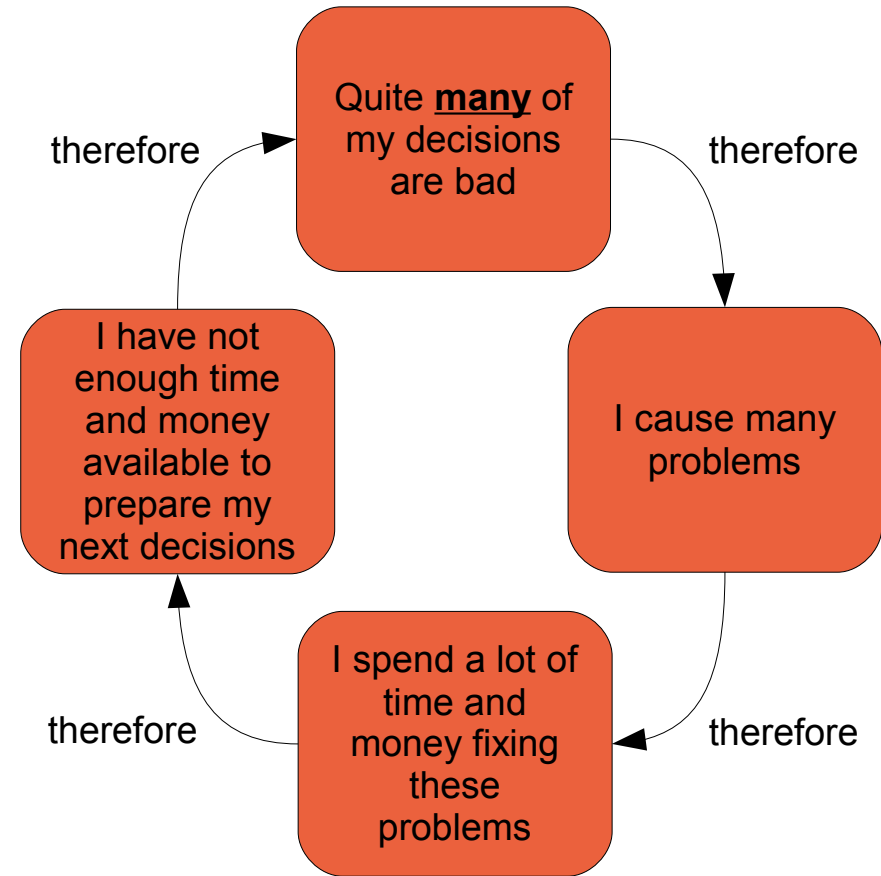
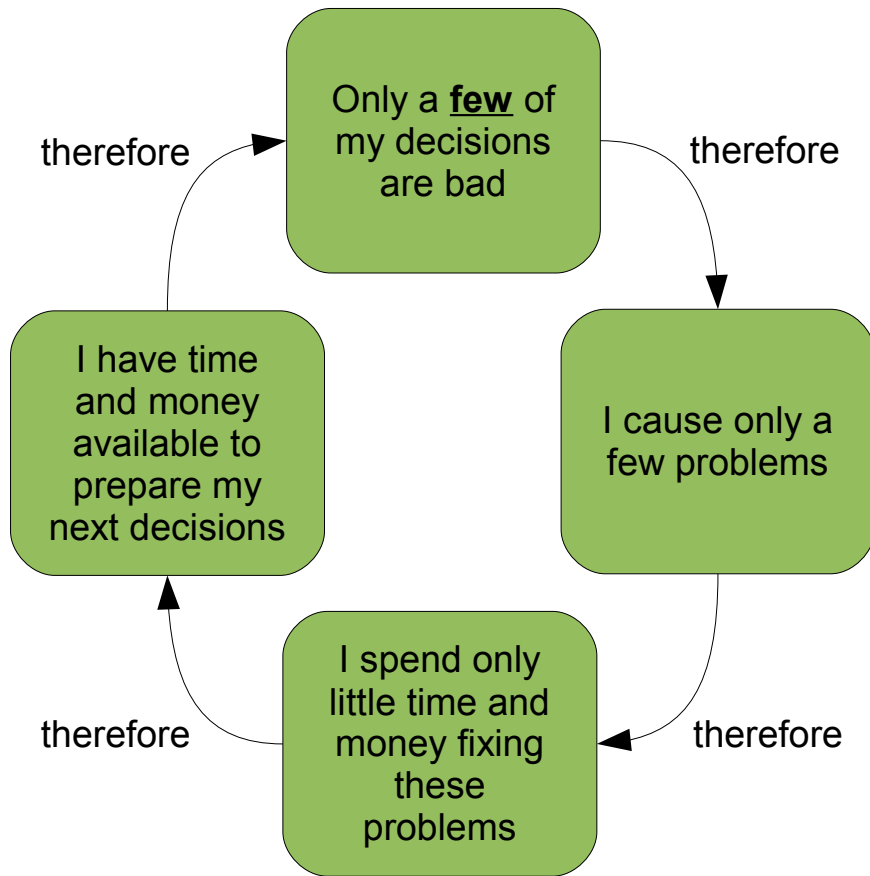
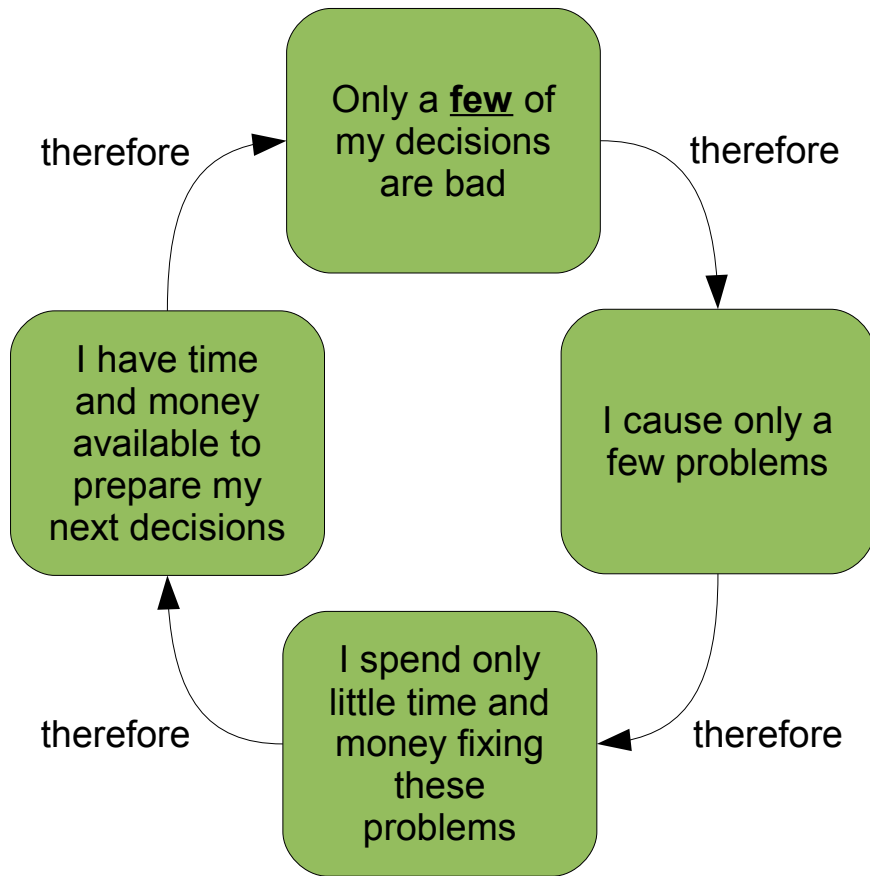


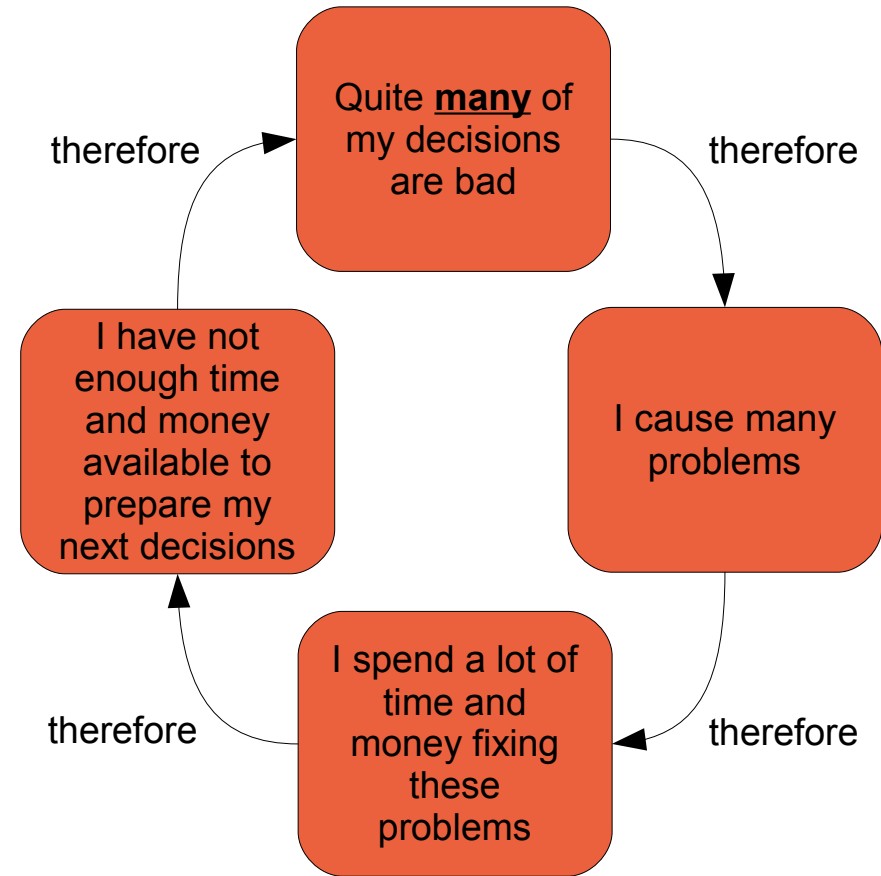
Fig. 4.1d : basic decisions-consequences circles



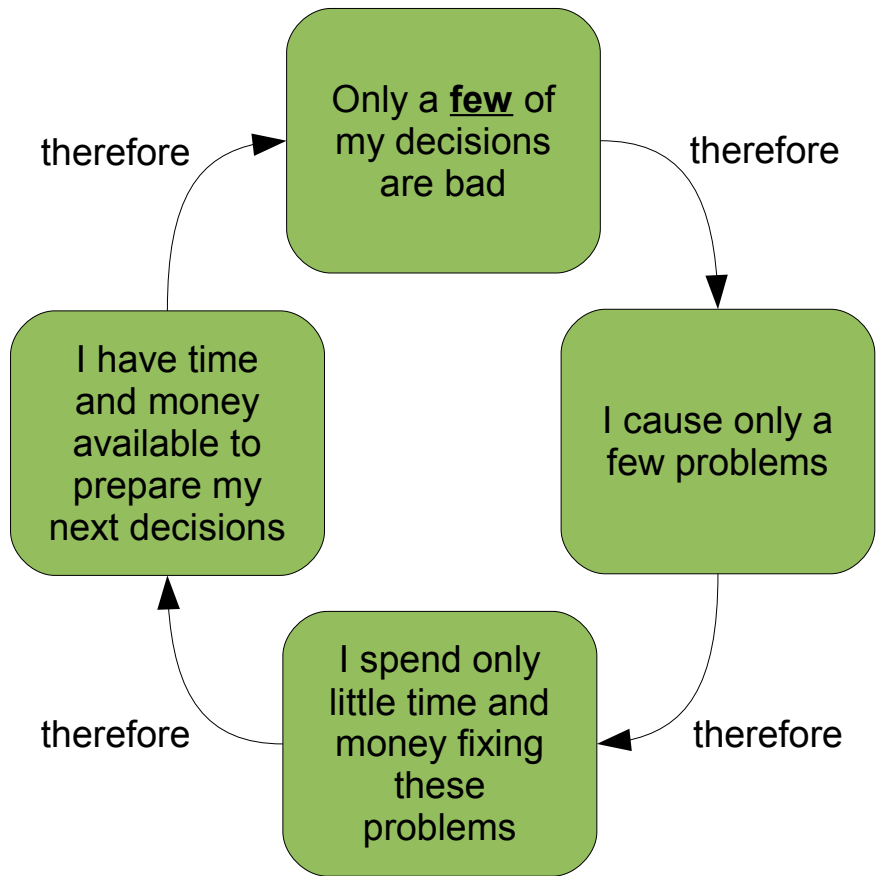
Desirable, but unstable situation:
requires constant attention, effort and skill.



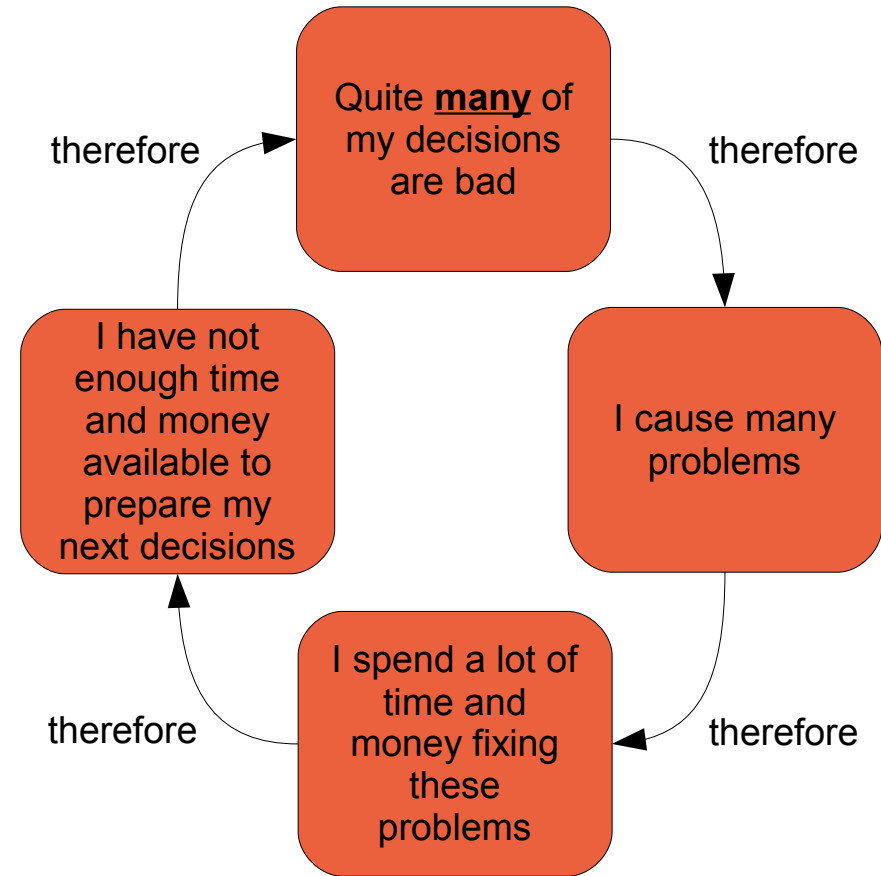
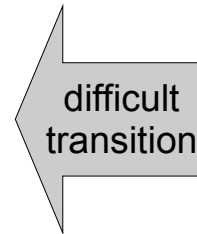
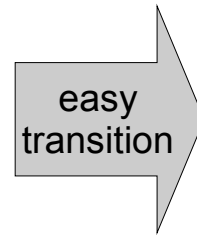
Desirable, but unstable situation:
requires constant attention, effort and skill.



Undesirable, but often stable situation:
requires nothing in particular.



Desirable, but unstable situation:
requires constant attention, effort and skill.



Undesirable, but often stable situation:
requires nothing in particular.

Staying in the **green circle** allows me to have my main focus on the **future**. I can spend a large part of my resources **planning ahead**.

Staying in the **red circle** forces me to have my main focus on the **past**. I must spend a large part of my resources **dealing with my previous mistakes** (while making new ones).

About halfway
through.

Chapter 4 progress

Intro done

Decisions-consequences circles ... done
... and spirals up next
Used to it?

Chapter 4 summary

Instead of moving in one of those circles, I could find myself moving in a kind of **spiral**.

That could happen if my decisions gradually **change my decision making environment** (e.g. my access to resources).

Then **the situation escalates** to better or worse.

In case of a **downward spiral**, the situation becomes gradually worse. The problems become larger and larger, until finally a trigger event **terminates or resets** the situation.

Example: many companies that went out of business have had this experience (the trigger event often being a 'no more credit' notice from their bank)

Note that the **trigger event** often is **incorrectly** regarded as the **actual cause** for the bad ending.

And the ending of a downward spiral can be very bad indeed.

Examples: arms races, famines, infectious diseases

In such cases, bad decisions can kill millions of people.

Finally, something else quite tragic happens when bad decisions are made frequently:

We get used to it.

Over the years, problems and crises become a normal, accepted part of your life.

Unless you are still young. Then you are probably inclined to **ask questions and demand corrective actions.**

And that is something we all should do. But **before demanding anything from others, we should see what we can do ourselves.**

The next chapters present some ideas.

Chapter 4 summary

A decision maker can afford only a few bad decisions before getting **trapped** in a vicious circle or a downward spiral.

Once there, the decision maker **loses most of his forward planning and acting capacity** because most resources are spent dealing with previous mistakes.

This applies to any decision maker, from single individual to global corporations or political institutions.

Don't get used to bad decisions and situations.
Demand improvements, from yourself and others.

Chapter 5

How can bad decisions be avoided?

A short answer

The answer to this question is threefold.

1. Be aware of the 'bad decisions cause problems' relation. This is why we want to avoid them.

(Covered in chapters 2-4)

2. Be aware of the factors that hinder good decision making.

(Covered in chapter 6)

3. Overcome the hindering factors by using appropriate techniques.

(Covered in chapters 7 and 9, and in appendices B, C, and E-G)

Chapter 6

Which factors hinder good decision making?

An overview

Estimated reading time: 4 minutes

The human mind has extraordinary abilities.
And many limitations.

Some we know and accept.

Example: divide 1232 by 56 in your head and say the result within 5 seconds.

Most likely your mind was **not capable** of doing this, but you are neither surprised nor embarrassed.

Other limitations we are not aware of, or find difficult to accept.

Example: having limited abilities in decision making would really hurt our pride (especially if decision making is our job). Wouldn't that mean we're stupid?
No way. Hence there is nothing wrong with our decision making abilities.

Voilà. You just heard a human mind in denial mode.

This sort of denial may keep our self-confidence up, but doesn't bring us any nearer to good decision making.

While looking at the following diagram you might think: 'well, I have seen **other people** with these limitations'.

Hmm. You will get most out of this chapter if you sacrifice a little self-confidence and **think one step further: 'also my mind has these limitations'.**

(Mine certainly has)

Chapter 6 progress

Intro done

Overview diagram up next

Chapter 6 summary

Always present,
unintended

Inability to fully grasp complex situations

Slow analytical thinking

Intuitive decision made before reasoned decision

Selective perception obscures view of situation

Emotions interfere with reasoning

Poor foresight

Peer pressure

Assumptions mistaken for facts

Prejudices mistaken for facts

Manipulative statements mistaken for facts

Hindering factors

Often present,
unintended

Poor understanding of probability and risk

Oversimplification / polarization

Wishful thinking / doomsday thinking

Poor logical thinking

Overconfidence

Old wisdom applied to fundamentally different situation

Poor attention to details

Lack of imagination

Open conflict of interest

Often present,
intended

Hidden conflict of interest (hidden agenda)

Fig. 6.1 : factors hindering good decision making

20 different factors, and this is
not a complete list.

Which ones actually are present in
a given decision making situation
will vary. But very likely there will
be more than 10 of them.

If you want to know more:

Appendix D (p. 266) explains
most factors mentioned in
the diagram.

Chapter 6 summary

At least 20 different factors can hinder good decision making.

Most are rooted in human nature.

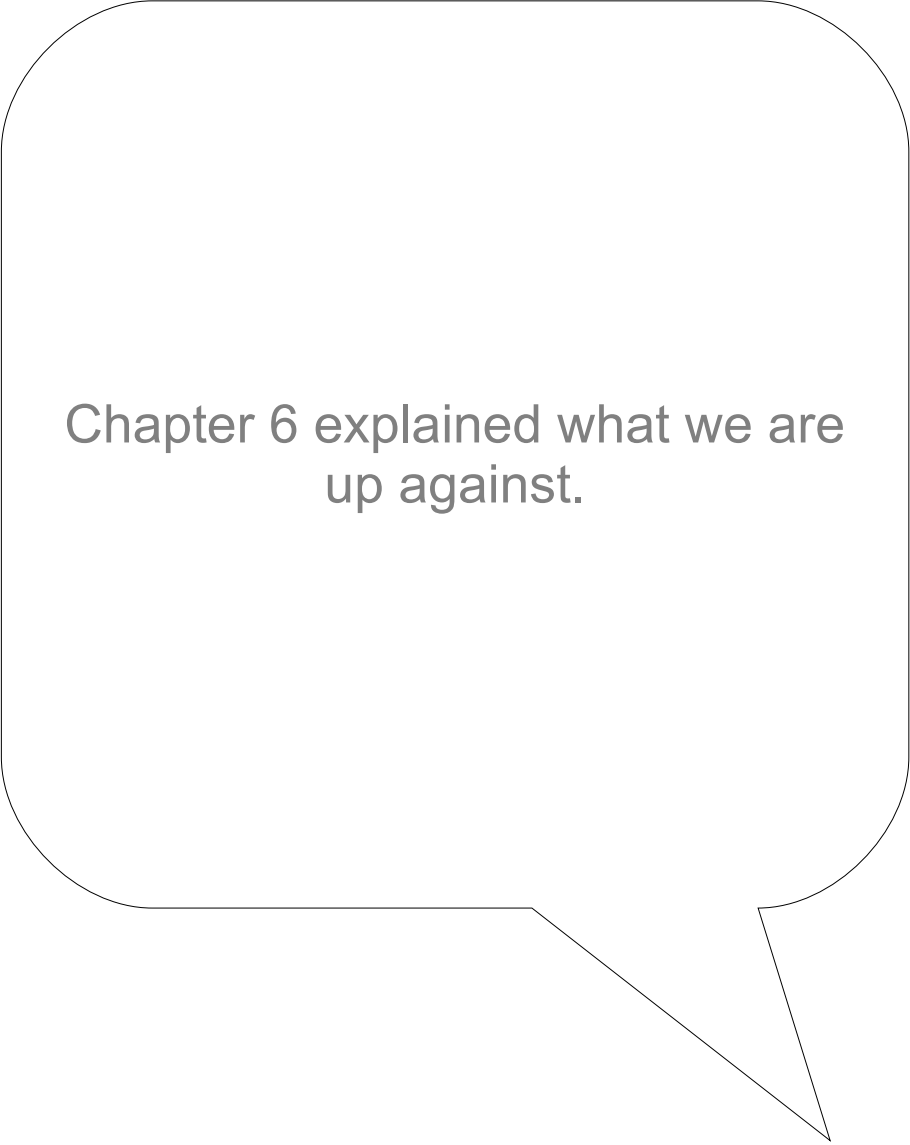
It is **difficult** and **unpleasant** to recognize such limiting factors **in your own mind**.
Hence they are usually **ignored or denied**.

A single factor can, if undetected and unchecked, 'contaminate' a decision making situation.
And lead to a bad decision.


Chapter 7

How to overcome the factors that hinder good decision making

Approaches and methods



Chapter 6 explained what we are
up against.



Now we have to find some
approaches or methods to
counteract the hindering factors.

The **good news** is:
it is possible to do this.

The **bad news** is:

- these methods, like other tools, **only** work well if used skilfully
- otherwise they may turn into **bureaucratic monsters**, or create other new problems

Let's have a look at them.

Chapter 7 progress

Intro done

Methods and approaches (diagram series) up next

Overview diagram

Conclusions for individuals

Conclusions for politics

Chapter 7 summary

Inability to fully grasp complex situations

Slow analytical thinking

Intuitive decision made before reasoned decision

Selective perception obscures view of situation

Emotions interfere with reasoning

Poor foresight

Peer pressure

Assumptions mistaken for facts

Prejudices mistaken for facts

Manipulative statements mistaken for facts

Lined up **left and right** are the **factors that hinder good decision making**

as introduced in chapter 6.

This sets the stage for the next diagrams.

Poor understanding of probability and risk

Oversimplification / polarization

Wishful thinking / doomsday thinking

Poor logical thinking

Overconfidence

Old wisdom applied to fundamentally different situation

Poor attention to details

Lack of imagination

Open conflict of interest

Hidden conflict of interest (hidden agenda)

Fig. 7.1 : setting the stage

Inability to fully grasp complex situations

Slow analytical thinking

Intuitive decision made before reasoned decision

Selective perception obscures view of situation

Emotions interfere with reasoning

Poor foresight

Peer pressure

Assumptions mistaken for facts

Prejudices mistaken for facts

Manipulative statements mistaken for facts

Counteracting the hindering factors

with

Awareness

If you know what to expect, you can prepare for it.

Awareness **requires** education and training.

Poor understanding of probability and risk

Oversimplification / polarization

Wishful thinking / doomsday thinking

Poor logical thinking

Overconfidence

Old wisdom applied to fundamentally different situation

Poor attention to details

Lack of imagination

Open conflict of interest

Hidden conflict of interest (hidden agenda)

Fig. 7.2a : counteracting the hindering factors

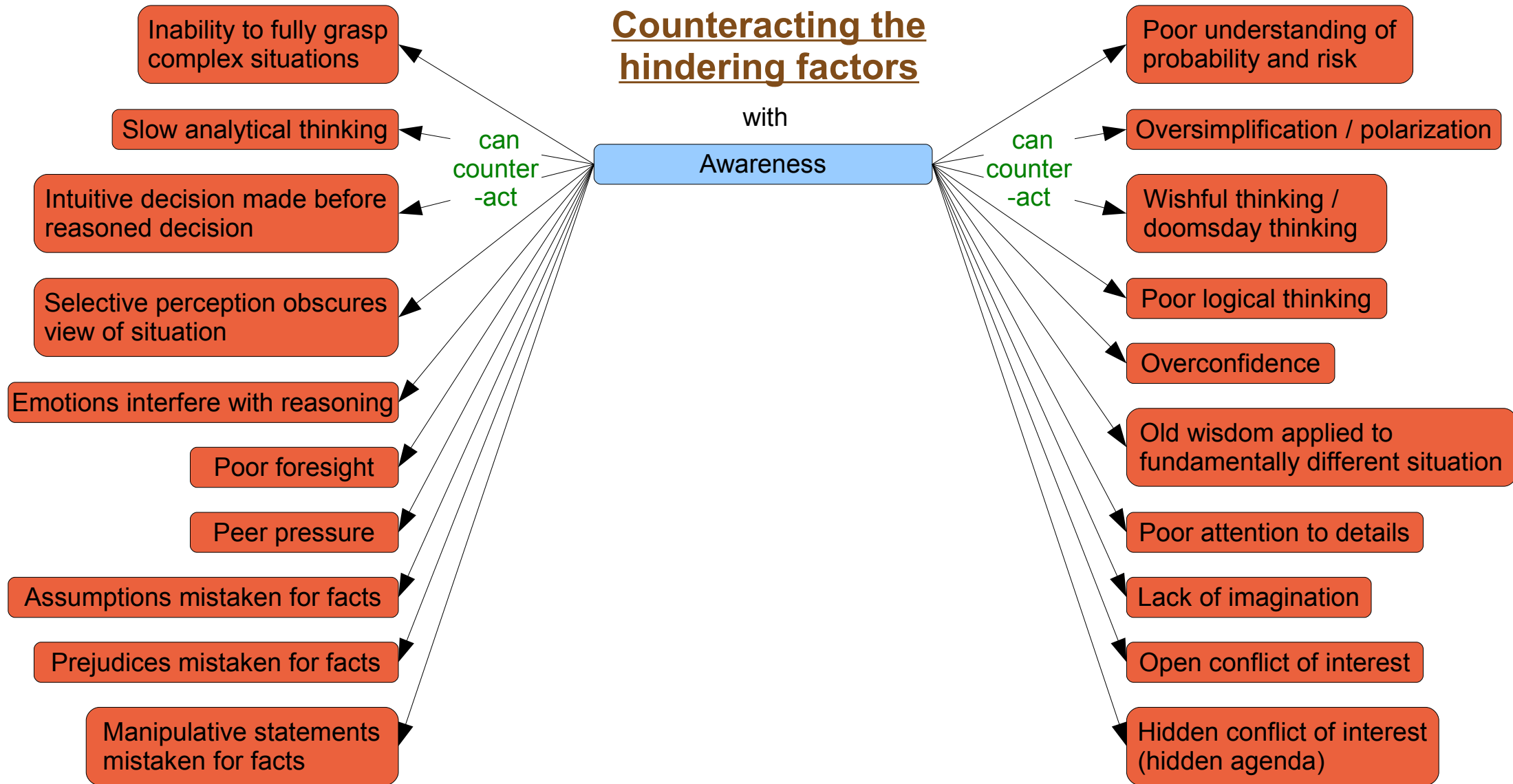


Fig. 7.2b : counteracting the hindering factors

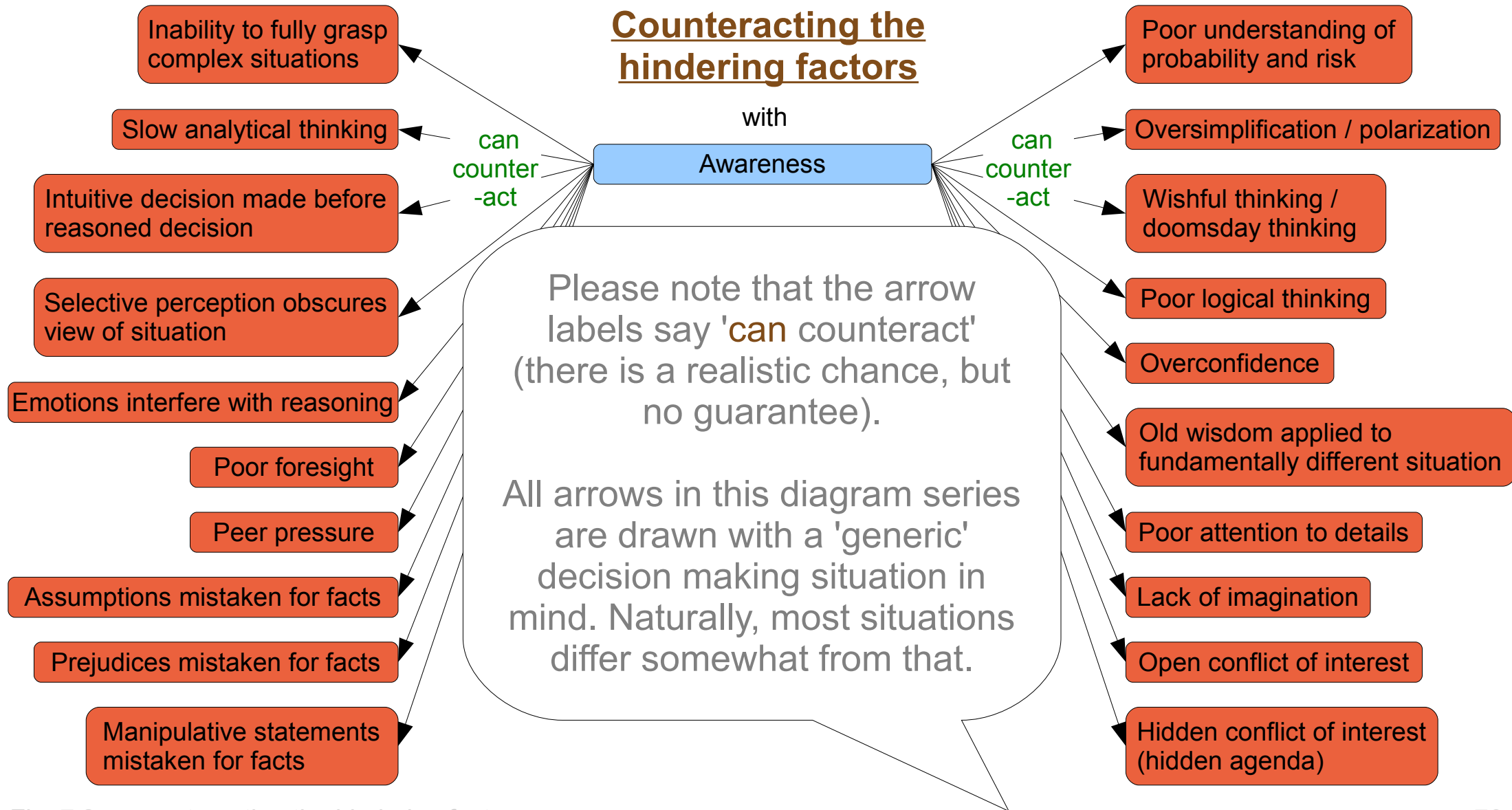


Fig. 7.2c : counteracting the hindering factors

Inability to fully grasp complex situations

Slow analytical thinking

Intuitive decision made before reasoned decision

Selective perception obscures view of situation

Emotions interfere with reasoning

Poor foresight

Peer pressure

Assumptions mistaken for facts

Prejudices mistaken for facts

Manipulative statements mistaken for facts

Counteracting the hindering factors

with

Awareness (of factors)

Allocation of time / money

Since **we need time to think**, let's make sure we have enough of it available.

If this time has a price tag, it should be compared to the potential costs of a rushed bad decision (see chapter 4).

Poor understanding of probability and risk

Oversimplification / polarization

Wishful thinking / doomsday thinking

Poor logical thinking

Overconfidence

Old wisdom applied to fundamentally different situation

Poor attention to details

Lack of imagination

Open conflict of interest

Hidden conflict of interest (hidden agenda)

Fig. 7.3a : counteracting the hindering factors

Inability to fully grasp complex situations

Slow analytical thinking

Intuitive decision made before reasoned decision

Selective perception obscures view of situation

Emotions interfere with reasoning

Poor foresight

Peer pressure

Assumptions mistaken for facts

Prejudices mistaken for facts

Manipulative statements mistaken for facts

Counteracting the hindering factors

with

can
counter-
act

Awareness (of factors)

Allocation of time / money

Poor understanding of probability and risk

Oversimplification / polarization

Wishful thinking / doomsday thinking

Poor logical thinking

Overconfidence

Old wisdom applied to fundamentally different situation

Poor attention to details

Lack of imagination

Open conflict of interest

Hidden conflict of interest (hidden agenda)

Fig. 7.3b : counteracting the hindering factors

Inability to fully grasp complex situations

Slow analytical thinking

Intuitive decision made before reasoned decision

Selective perception obscures view of situation

Emotions interfere with reasoning

Poor foresight

Peer pressure

Assumptions mistaken for facts

Prejudices mistaken for facts

Manipulative statements mistaken for facts

Counteracting the hindering factors

with

Awareness (of factors)

Allocation of time / money

Teamwork / delegation

Someone who is qualified (and motivated) can do better what you can't do well.

Different team members will have different mental limitations. If their 'blind spots' don't overlap, the team can recognize personal biases and other traps.

Poor understanding of probability and risk

Oversimplification / polarization

Wishful thinking / doomsday thinking

Poor logical thinking

Overconfidence

Old wisdom applied to fundamentally different situation

Poor attention to details

Lack of imagination

Open conflict of interest

Hidden conflict of interest (hidden agenda)

Fig. 7.4a : counteracting the hindering factors

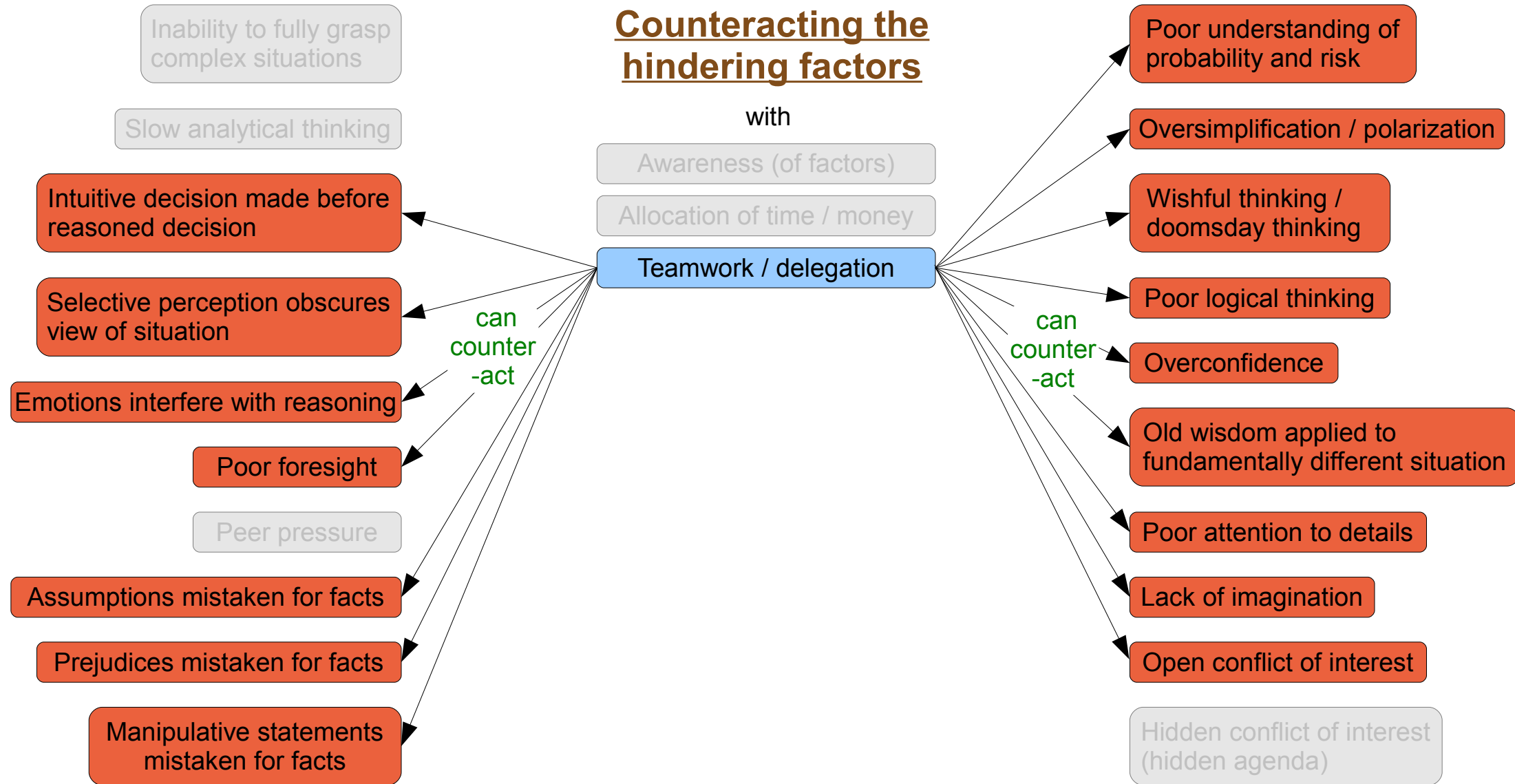


Fig. 7.4b : counteracting the hindering factors

Inability to fully grasp complex situations

Slow analytical thinking

Intuitive decision made before reasoned decision

Selective perception obscures view of situation

Emotions interfere with reasoning

Poor foresight

Peer pressure

Assumptions mistaken for facts

Prejudices mistaken for facts

Manipulative statements mistaken for facts

Counteracting the hindering factors

with

Awareness (of factors)

Allocation of time / money

Teamwork / delegation

Transparency

If others are allowed to watch your work in detail, you will work more carefully. And probably get useful feedback.

'Others' should include everyone affected by the decision.

Transparency requires documentation.

Poor understanding of probability and risk

Oversimplification / polarization

Wishful thinking / doomsday thinking

Poor logical thinking

Overconfidence

Old wisdom applied to fundamentally different situation

Poor attention to details

Lack of imagination

Open conflict of interest

Hidden conflict of interest (hidden agenda)

Fig. 7.5a : counteracting the hindering factors

Inability to fully grasp complex situations

Slow analytical thinking

Intuitive decision made before reasoned decision

Selective perception obscures view of situation

Emotions interfere with reasoning

Poor foresight

Peer pressure

Assumptions mistaken for facts

Prejudices mistaken for facts

Manipulative statements mistaken for facts

Counteracting the hindering factors

with

Awareness (of factors)

Allocation of time / money

Teamwork / delegation

Transparency

Situation analysis

Poor understanding of probability and risk

Oversimplification / polarization

Wishful thinking / doomsday thinking

Poor logical thinking

Overconfidence

Old wisdom applied to fundamentally different situation

Poor attention to details

Lack of imagination

Open conflict of interest

Hidden conflict of interest (hidden agenda)

Identify elements and structure of the situation, and break it down into understandable parts.

Fig. 7.6a : counteracting the hindering factors

Inability to fully grasp complex situations

Slow analytical thinking

Intuitive decision made before reasoned decision

Selective perception obscures view of situation

Emotions interfere with reasoning

Poor foresight

Peer pressure

Assumptions mistaken for facts

Prejudices mistaken for facts

Manipulative statements mistaken for facts

Counteracting the hindering factors

with

Awareness (of factors)

Allocation of time / money

Teamwork / delegation

Transparency

Situation analysis

can counter-act

can counter-act

Poor understanding of probability and risk

Oversimplification / polarization

Wishful thinking / doomsday thinking

Poor logical thinking

Overconfidence

Old wisdom applied to fundamentally different situation

Poor attention to details

Lack of imagination

Open conflict of interest

Hidden conflict of interest (hidden agenda)

Fig. 7.6b : counteracting the hindering factors

Inability to fully grasp complex situations

Slow analytical thinking

Intuitive decision made before reasoned decision

Selective perception obscures view of situation

Emotions interfere with reasoning

Poor foresight

Peer pressure

Assumptions mistaken for facts

Prejudices mistaken for facts

Manipulative statements mistaken for facts

Counteracting the hindering factors

with

Awareness (of factors)

Allocation of time / money

Teamwork / delegation

Transparency

Situation analysis

Simplification / elimination

Poor understanding of probability and risk

Discard elements that are irrelevant (and only them) to:

- **reduce complexity**
- **save time**

If possible, eliminate decision options which definitely will not be chosen.

Note that 'discard' and 'eliminate' do not mean 'delete from record'.

Hidden conflict of interest (hidden agenda)

Fig. 7.7a : counteracting the hindering factors

Inability to fully grasp complex situations

Slow analytical thinking

Intuitive decision made before reasoned decision

Selective perception obscures view of situation

Emotions interfere with reasoning

Poor foresight

Peer pressure

Assumptions mistaken for facts

Prejudices mistaken for facts

Manipulative statements mistaken for facts

Counteracting the hindering factors

with

Awareness (of factors)

Allocation of time / money

Teamwork / delegation

Transparency

Situation analysis

Simplification / elimination

can
counter-act

Poor understanding of probability and risk

Oversimplification / polarization

Wishful thinking / doomsday thinking

Poor logical thinking

Overconfidence

Old wisdom applied to fundamentally different situation

Poor attention to details

Lack of imagination

Open conflict of interest

Hidden conflict of interest (hidden agenda)

Fig. 7.7b : counteracting the hindering factors

Inability to fully grasp complex situations

Slow analytical thinking

Intuitive decision made before reasoned decision

Selective perception obscures view of situation

Emotions interfere with reasoning

Poor foresight

Peer pressure

Assumptions mistaken for facts

Prejudices mistaken for facts

Manipulative statements mistaken for facts

Counteracting the hindering factors

with

Awareness (of factors)

Allocation of time / money

Teamwork / delegation

Transparency

Situation analysis

Simplification / elimination

Fact check / collection

Poor understanding of probability and risk

Oversimplification / polarization

Establishing **a collection of undisputed facts** can be very useful. Especially when there are several parties involved in the decision making.

Often this **fact collection, plus logical thinking**, points towards an acceptable decision option, or rules out others.

Hidden conflict of interest (hidden agenda)

Fig. 7.8a : counteracting the hindering factors

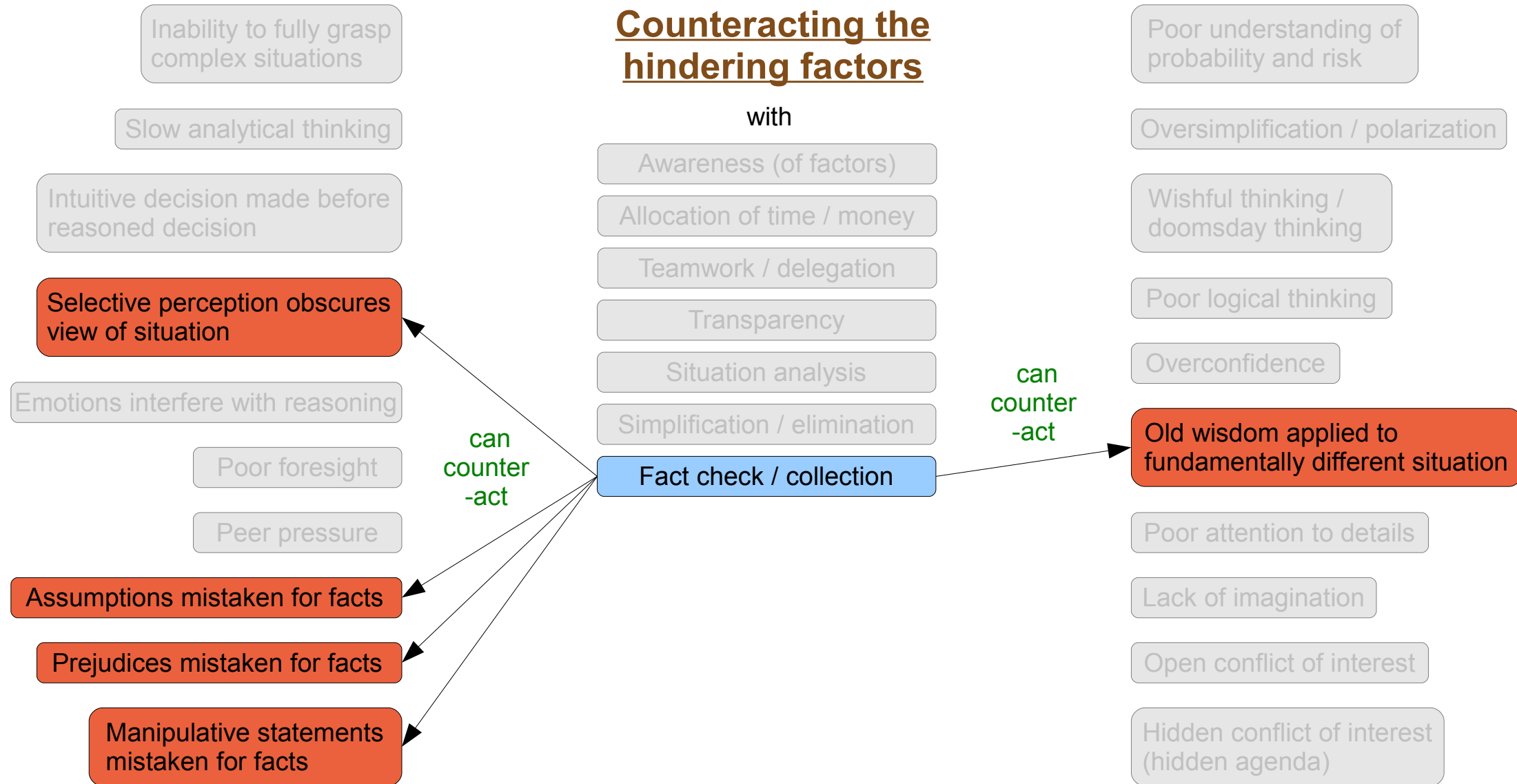


Fig. 7.8b : counteracting the hindering factors

Inability to fully grasp complex situations

Slow analytical thinking

Intuitive decision made before reasoned decision

Selective perception obscures view of situation

Emotions interfere with reasoning

Poor foresight

Peer pressure

Assumptions mistaken for facts

Prejudices mistaken for facts

Manipulative statements mistaken for facts

Counteracting the hindering factors

with

Awareness (of factors)

Allocation of time / money

Teamwork / delegation

Transparency

Situation analysis

Simplification / elimination

Fact check / collection

Visualization

Poor understanding of probability and risk

Oversimplification / polarization

Drawings, diagrams (perhaps animated) and tables can help with:

- understanding and
- communicating

information that is too complex for linear text representation.

(Can you imagine this diagram series as plain text?)

Hidden conflict of interest (hidden agenda)

Fig. 7.9a : counteracting the hindering factors

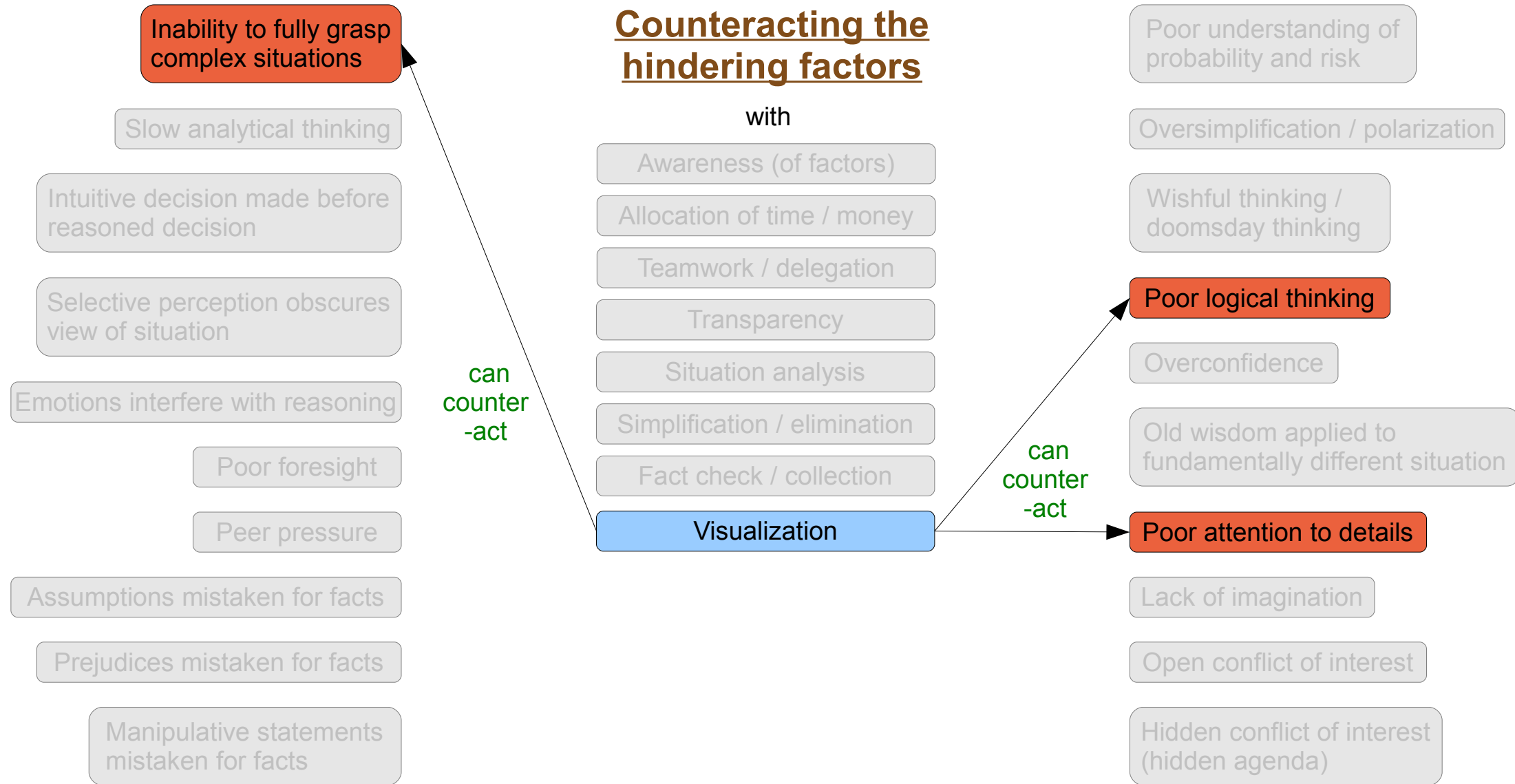


Fig. 7.9b : counteracting the hindering factors

Inability to fully grasp complex situations

Slow analytical thinking

Intuitive decision made before reasoned decision

Selective perception obscures view of situation

Emotions interfere with reasoning

Poor foresight

Peer pressure

Assumptions mistaken for facts

Prejudices mistaken for facts

Manipulative statements mistaken for facts

Counteracting the hindering factors

with

Awareness (of factors)

Allocation of time / money

Teamwork / delegation

Transparency

Situation analysis

Simplification / elimination

Fact check / collection

Visualization

Option finding / brainstorming

Poor understanding of probability and risk

Oversimplification / polarization

Considering all available options is an **essential** part of good decision making.

But before you can consider any options, you must find them first.

And don't stop searching too early. Promising options may hide outside the mainstream.

Hidden conflict of interest (hidden agenda)

Fig. 7.10a : counteracting the hindering factors

Inability to fully grasp complex situations

Slow analytical thinking

Intuitive decision made before reasoned decision

Selective perception obscures view of situation

Emotions interfere with reasoning

Poor foresight

Peer pressure

Assumptions mistaken for facts

Prejudices mistaken for facts

Manipulative statements mistaken for facts

Counteracting the hindering factors

with

Awareness (of factors)

Allocation of time / money

Teamwork / delegation

Transparency

Situation analysis

Simplification / elimination

Fact check / collection

Visualization

Option finding / brainstorming

Poor understanding of probability and risk

Oversimplification / polarization

Wishful thinking / doomsday thinking

Poor logical thinking

Overconfidence

Old wisdom applied to fundamentally different situation

Poor attention to details

Lack of imagination

Open conflict of interest

Hidden conflict of interest (hidden agenda)

can
counter-
act



Fig. 7.10b : counteracting the hindering factors

Inability to fully grasp complex situations

Slow analytical thinking

Intuitive decision made before reasoned decision

Selective perception obscures view of situation

Emotions interfere with reasoning

Poor foresight

Peer pressure

Assumptions mistaken for facts

Prejudices mistaken for facts

Manipulative statements mistaken for facts

Counteracting the hindering factors

with

Awareness (of factors)

Allocation of time / money

Teamwork / delegation

Transparency

Situation analysis

Simplification / elimination

Fact check / collection

Visualization

Option finding / brainstorming

Hearings / 3rd party feedback

Asking others for their views on a particular subject can be very helpful. But only if you **listen with an open mind**.

Political decision processes often include hearings.

However, **if** a hearing lacks the 'listen with an open mind' bit, it slows down the decision process without contributing any value. Such hearings are often misused for media campaigns or other agendas.

Hidden conflict of interest (hidden agenda)

Fig. 7.11a : counteracting the hindering factors

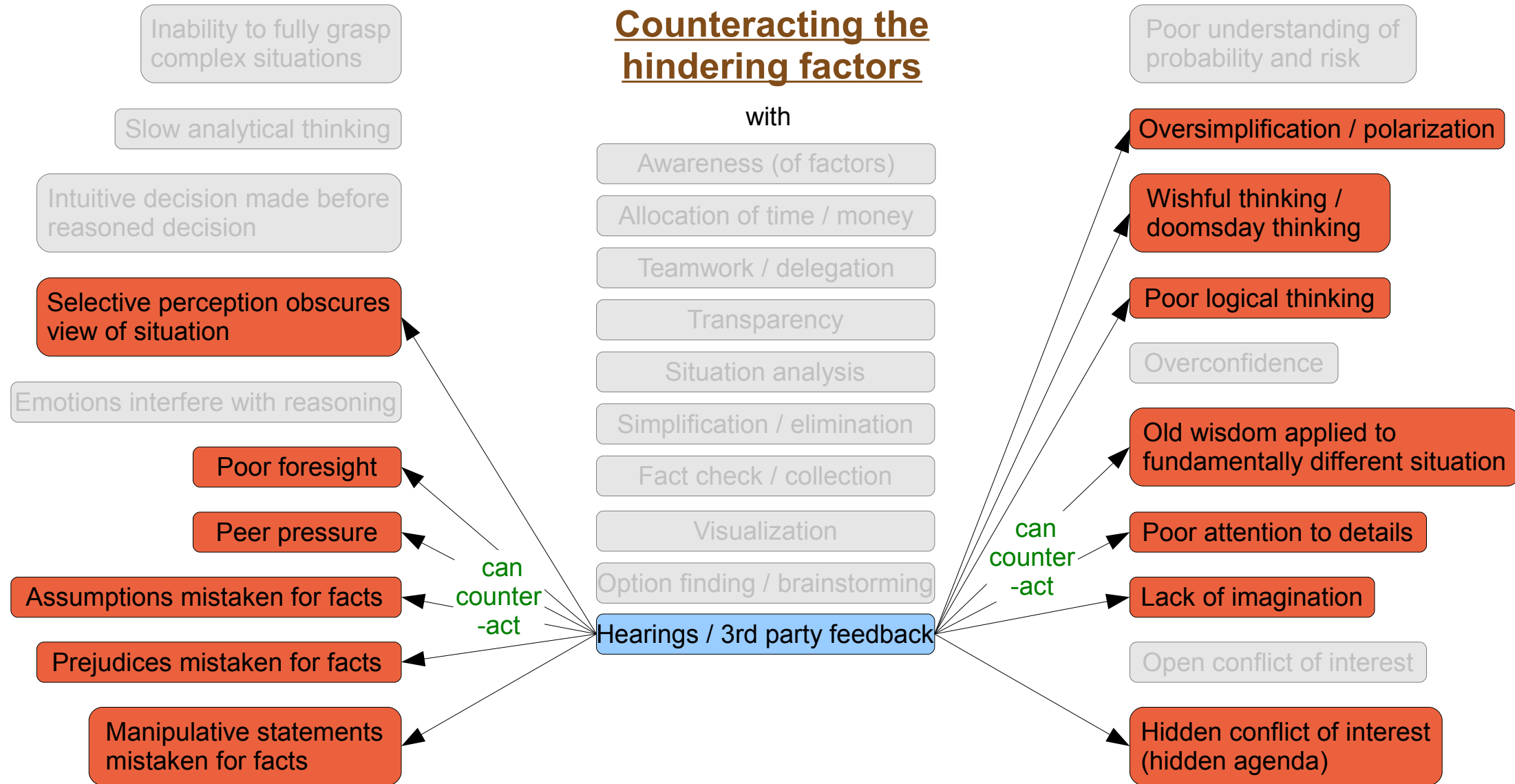


Fig. 7.11b : counteracting the hindering factors

Inability to fully grasp complex situations

Slow analytical thinking

Intuitive decision made before reasoned decision

Selective perception obscures view of situation

Emotions interfere with reasoning

Poor foresight

Peer pressure

Assumptions mistaken for facts

Prejudices mistaken for facts

Manipulative statements mistaken for facts

Counteracting the hindering factors

with

Awareness (of factors)

Allocation of time / money

Teamwork / delegation

Transparency

Situation analysis

Simplification / elimination

Fact check / collection

Visualization

Option finding / brainstorming

Hearings / 3rd party feedback

Prediction of consequences

Poor understanding of probability and risk

Imagine the possible consequences of each viable decision option. Step by step.

How will the 'opponents' react (if there are any)?

Such cases have similarities to a game of chess.

Being sloppy with predicting consequences very likely leads to bad decisions.

Hidden conflict of interest (hidden agenda)

Fig. 7.12a : counteracting the hindering factors

Inability to fully grasp complex situations

Slow analytical thinking

Intuitive decision made before reasoned decision

Selective perception obscures view of situation

Emotions interfere with reasoning

Poor foresight

Peer pressure

Assumptions mistaken for facts

Prejudices mistaken for facts

Manipulative statements mistaken for facts

Counteracting the hindering factors

with

Awareness (of factors)

Allocation of time / money

Teamwork / delegation

Transparency

Situation analysis

Simplification / elimination

Fact check / collection

Visualization

Option finding / brainstorming

Hearings / 3rd party feedback

Prediction of consequences

can
counter-
act

Poor understanding of probability and risk

Oversimplification / polarization

Wishful thinking / doomsday thinking

Poor logical thinking

Overconfidence

Old wisdom applied to fundamentally different situation

Poor attention to details

Lack of imagination

Open conflict of interest

Hidden conflict of interest (hidden agenda)

Fig. 7.12b : counteracting the hindering factors

Inability to fully grasp complex situations

Slow analytical thinking

Intuitive decision made before reasoned decision

Selective perception obscures view of situation

Emotions interfere with reasoning

Poor foresight

Peer pressure

Assumptions mistaken for facts

Prejudices mistaken for facts

Manipulative statements mistaken for facts

Counteracting the hindering factors

with

Awareness (of factors)

Allocation of time / money

Teamwork / delegation

Transparency

Situation analysis

Simplification / elimination

Fact check / collection

Visualization

Option finding / brainstorming

Hearings / 3rd party feedback

Prediction of consequences

Risk assessment

1. **Risks within the current situation** should be assessed (to avoid immediate surprises).

2. **Future risks** connected with each viable decision option should be assessed.

Example: before you choose between an apparent 'beautiful' and an 'acceptable' option, you really need to know which one involves higher risks.

Hidden conflict of interest (hidden agenda)

Fig. 7.13a : counteracting the hindering factors

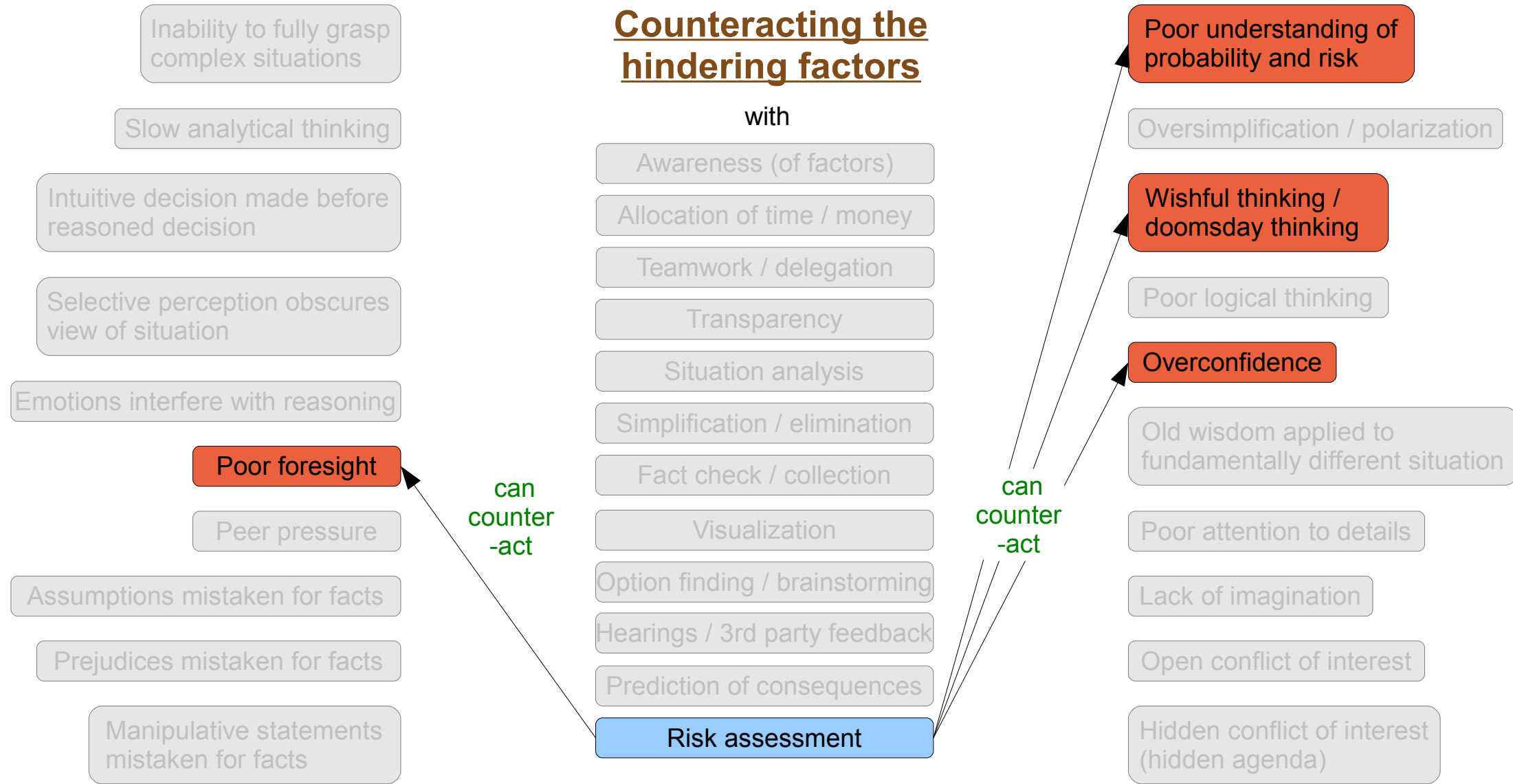


Fig. 7.13b : counteracting the hindering factors

Inability to fully grasp complex situations

Slow analytical thinking

Intuitive decision made before reasoned decision

Selective perception obscures view of situation

Emotions interfere with reasoning

Poor foresight

Peer pressure

Assumptions mistaken for facts

Prejudices mistaken for facts

Manipulative statements mistaken for facts

Counteracting the hindering factors

with

Awareness (of factors)

Allocation of time / money

Teamwork / delegation

Transparency

Situation analysis

Simplification / elimination

Fact check / collection

Visualization

Option finding / brainstorming

Hearings / 3rd party feedback

Prediction of consequences

Risk assessment

Review / double check

Poor understanding of probability and risk

Oversimplification / polarization

Have someone else check your reasoning (at least) **before committing** to your chosen decision option.

This requires documentation.

The reviewer must be qualified, and there must be no conflict of interest.

Hidden conflict of interest (hidden agenda)

Fig. 7.14a : counteracting the hindering factors

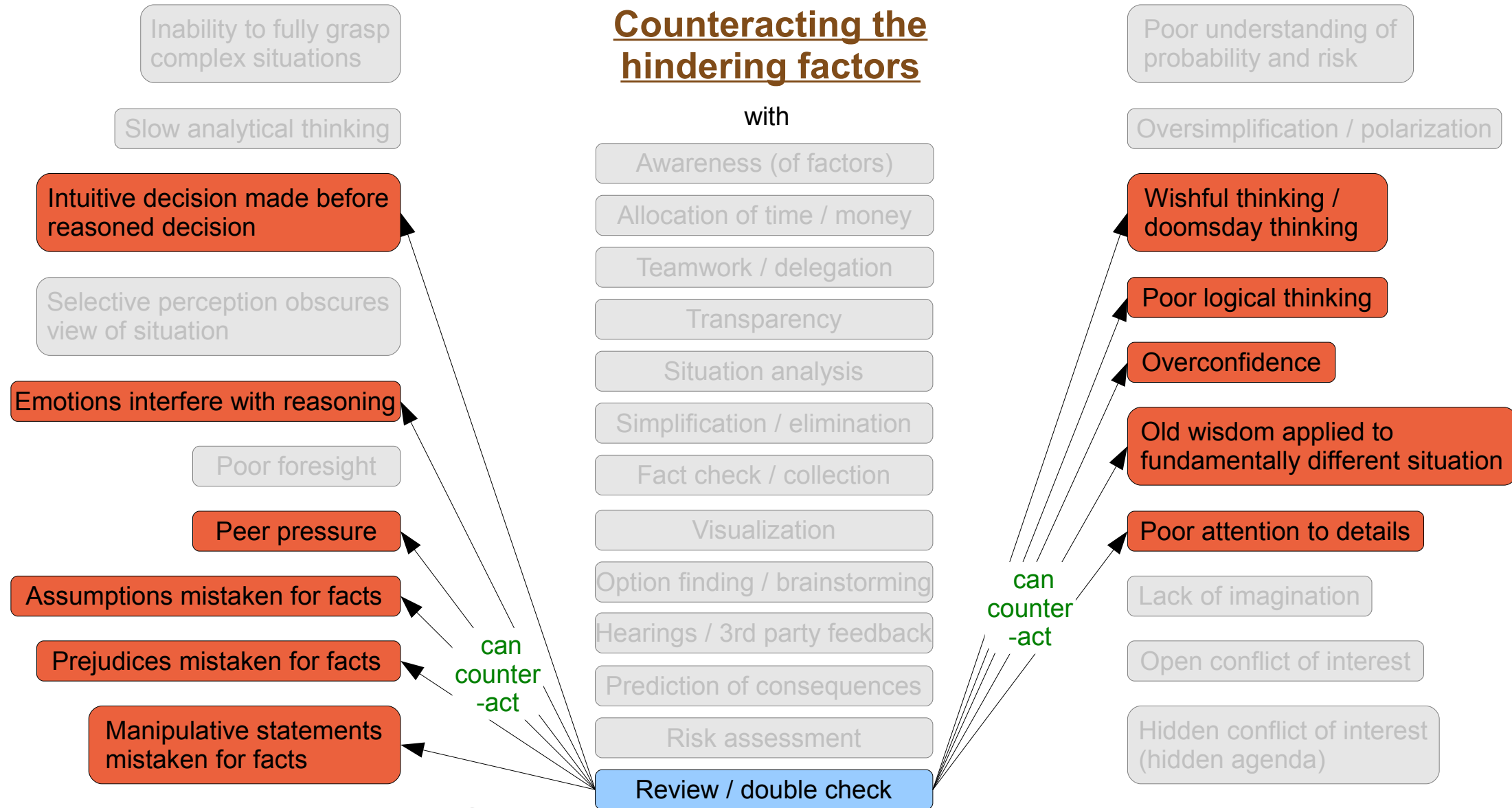


Fig. 7.14b : counteracting the hindering factors

Actually more
than halfway
through.

Chapter 7 progress

Intro	done
Methods and approaches (diagram series)	done
Overview diagram	up next
Conclusions for individuals	
Conclusions for politics	
Chapter 7 summary	

Let's merge the previous diagrams into a single one.

This gives us the overview diagram on the next page.

Yes, it does look overloaded, but it shows something very important: **we can actually overcome all hindering factors.**

Is it **necessary** and **practical** to use all these methods every time?

No. More about that shortly.

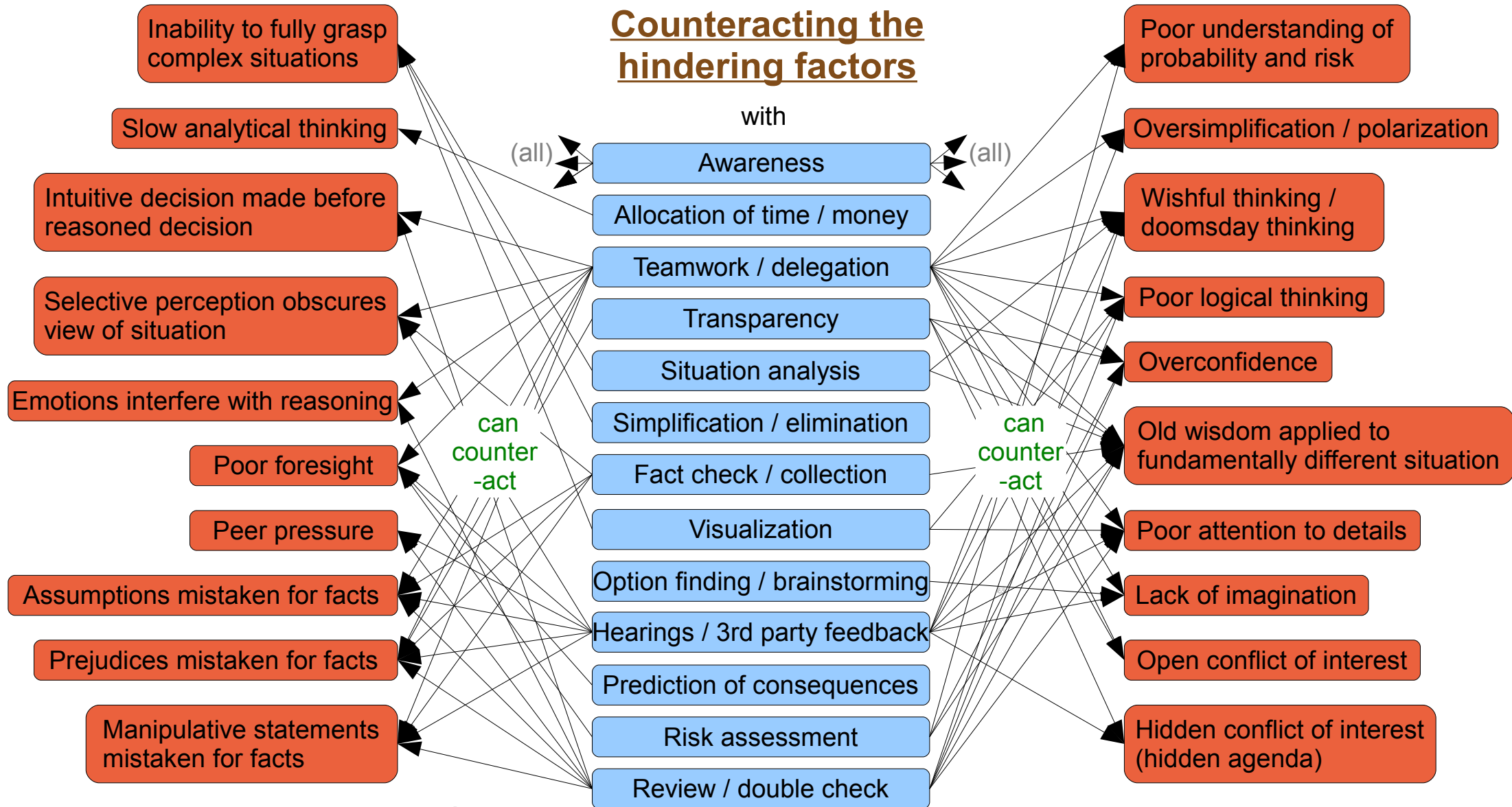


Fig. 7.15 : counteracting the hindering factors

Chapter 7 progress

	Intro	done
Methods and approaches (diagram series)		done
Overview diagram		done
Conclusions for individuals		up next
Conclusions for politics		
Chapter 7 summary		

So, is **all this information** just boxes and arrows in abstract diagrams, **far from real life**?

Or can you use it for making better decisions for yourself?

If so, how?

And is it worth the effort?

Well, you **can** use information from the diagrams to improve your personal decision making.

But like learning other skills, **it requires effort** and in the beginning you can't expect brilliant results.

First you need to identify which hindering factors are most relevant **for you**. That depends on **your** personal strengths and weaknesses.

Then you pick methods that can counteract these factors, and that suit you and the kind of decision you want to make.

Then you use these methods.
That's it.

In practice, you would work your way through a process similar to the minimal one on the next page (but tailored to your own needs.)

Personal decision 'survival kit'

(for medium complex situations)

Awareness	1-3 min.	'I realize my mind has limitations. I need to work around them.'
Situation analysis	3-15 min.	'What am I facing here? (Would it help to make a sketch on paper?)'
Option finding / brainstorming	3-15 min.	'I write down all decision options I can think of.'
Visualization	3-15 min.	'I make a table where I list my options, with their pluses and minuses'.
Prediction of consequences	3-15 min.	'What will happen if I go for my favourite option?'
Review / double check	5-30 min.	'I ask a smart friend for feedback, or double check myself tomorrow.'

Fig. 7.16 : personal decision 'survival kit'

Is it worth the effort? Compared to decisions based on impulse, **your output rate of bad decisions will be far lower.** Which means you will cause fewer problems.

Whenever this requires less effort than dealing with caused problems, the answer is yes.

(If in doubt, consider also the red and green circles from chapter 4)

Note that 'personal' decisions are only truly personal if nobody else has to live with their consequences.

Otherwise they are partly made on behalf of others, and the decision maker should also consider their interests.

That leads us into the domain of politics.

Chapter 7 progress

	Intro	done
Methods and approaches (diagram series)		done
Overview diagram		done
Conclusions for individuals		done
Conclusions for politics		up next
Chapter 7 summary		

The **main task** of a political institution (e.g. a town council, parliament or government) is to make decisions on behalf of others - the people they serve and have power over. Us.

We can rightfully expect that our institutions perform this task **consistently well**.

If you need something to be done consistently well, you need **safeguards** which prevent (inevitable) human errors from causing major problems.

The 'blue box' methods in the overview diagram (fig. 7.15, p. 103) can serve as such safeguards, if integrated into the decision process.

Some political decision makers may oppose such safeguards as too restrictive for their liking (unless these can easily be outmaneuvered or disabled).

If you look at the way political decisions are often made, you can understand why.

Example:

Favouring special interests over public interests, manipulative statements and poor foresight are much harder to get away with

if there are safeguards such as

Transparency

Fact check / collection

Prediction of consequences

in place (and functioning).

To get the best possible political decisions, we must ensure that all 'red box' hindering factors are counteracted by suitable 'blue box' methods.

Ideally, politicians, media and the general public would cooperate competently to achieve this.

Realistically, we would need to establish strict quality standards for political decision processes.

And means for ensuring compliance.

How this could be done **efficiently**, and without taking legitimate power from the decision maker, is described in appendix E (p. 294).

Chapter 7 summary

A decision maker can overcome hindering factors by using counteracting methods/approaches, and thus achieve good decision quality.

This applies to any decision maker, from a single individual to global corporations or political institutions.

Many decision makers do not use counteracting methods systematically. Hence their decision quality is rather variable.

In the domain of politics, 'rather variable' decision quality is not good enough (just look at the results).

Establishing strict quality standards for political decision processes could reduce the number of bad decisions and caused problems.

Chapter 8

Decision making theory vs. real life

Why available tools are not used

Few of the methods listed in chapter 7 (e.g. hearings, risk assessments) are systematically used in decision processes.

Most are not.

And there is no widespread and systematic use of other tools either.

Quite strange, considering that:

- advice on decision making is available for everyone who has access to a library or the internet
- using tools to accomplish something difficult is normal human behaviour

Why is all this available
knowledge so seldom applied to
real life situations?

There are at least 9 reasons.

1. The decision maker feels
comfortable with his abilities, and
does not seek more knowledge.

2. After a bad decision, the decision maker draws only superficial conclusions (e.g. 'I had a bad day', 'they gave me wrong information'), instead of looking for ways to improve the decision process.

3. Decision process quality itself is intangible and hard to focus on. Neither its presence nor its absence can be pictured in a news article or on TV.

4. Many texts about these subjects are written by experts for experts. **Difficult language** and **sheer volume** can make the contents of such texts practically inaccessible for everyone else.

5. Even clearly understandable and well-founded advice can be **impractical** to follow in some real life situations.

6. Following a specific decision making procedure easily feels like a loss of freedom. And that **doesn't feel good.**

7. Many leaders may fear that using decision making tools could make them **look weak** (because they 'need help') or otherwise reduce their authority.

8. There is **no widespread culture** of using decision making tools. It is not something 'normal' everyone has learned at school.

9. A decision maker with a **hidden agenda** has absolutely no interest in following a well-designed decision making procedure (but cannot say that in public).

Proper use of decision making tools would almost certainly interfere with the hidden agenda.

Chapter 8 summary

Decision making tools (methods) are available for everyone who has access to a library or the internet.

But only few decision makers use them.

There are at least 9 reasons for this.

In some cases, the decision maker lacks awareness or gives other matters priority over decision quality.

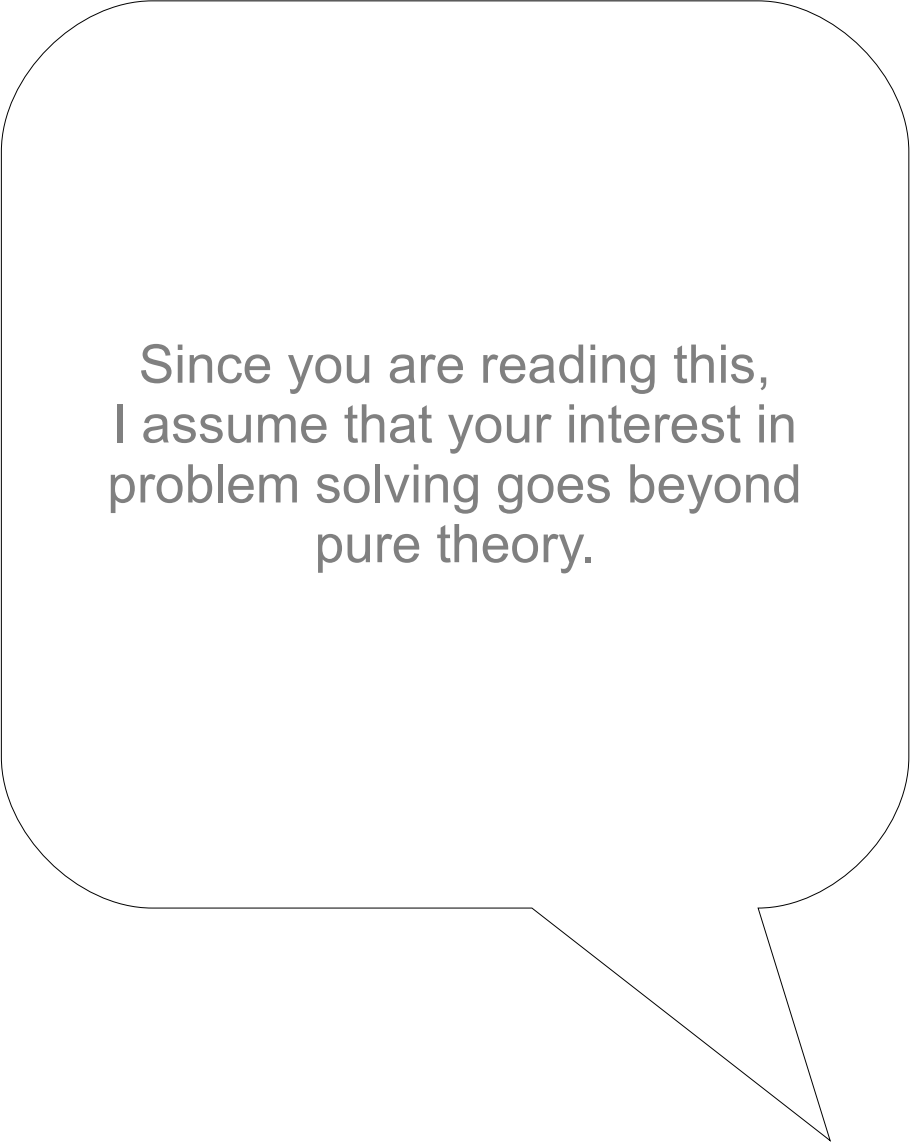
In other cases, social norms or communication problems prevent the use of such tools.

And some tools are simply impractical.

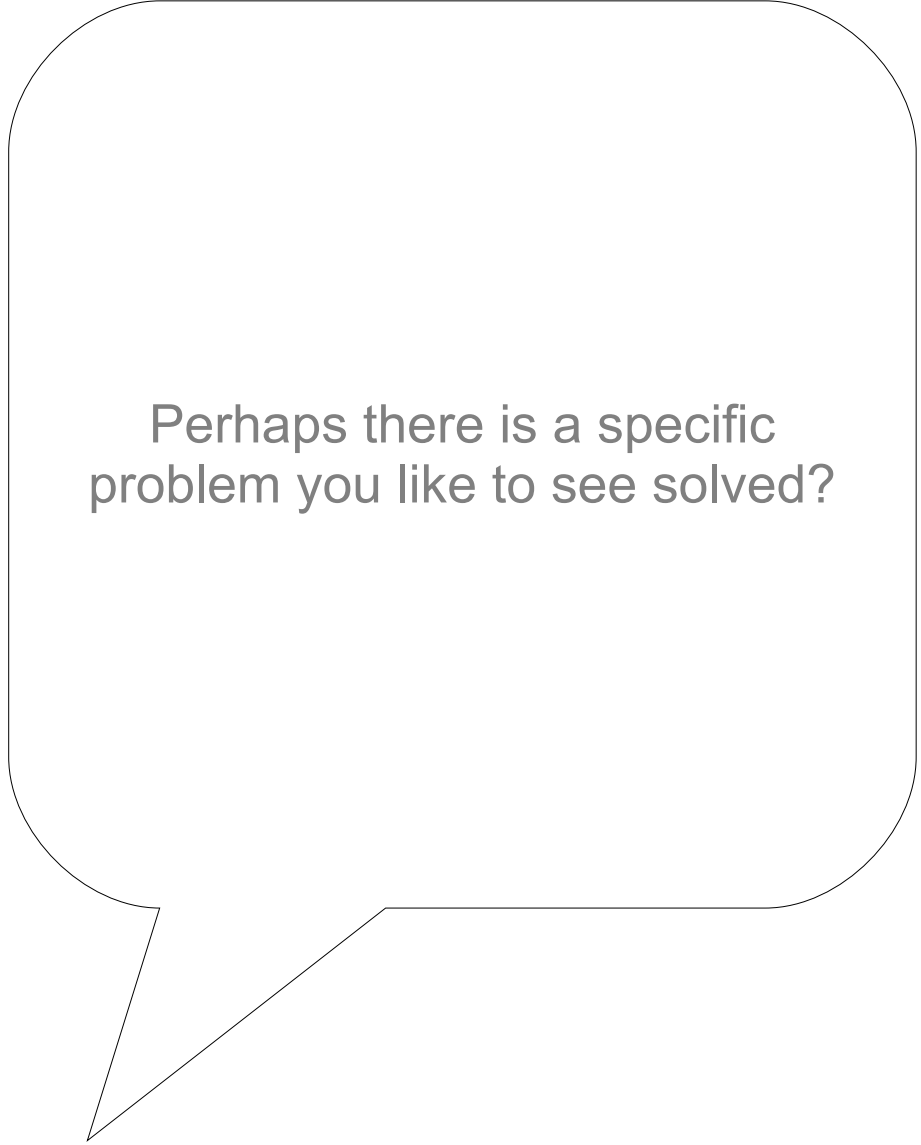
Chapter 9

An appeal: how you can contribute

Better decisions, less problems



Since you are reading this,
I assume that your interest in
problem solving goes beyond
pure theory.



Perhaps there is a specific
problem you like to see solved?

Before moving on,
we need to distinguish between
two types of problems:

A) the ones you could solve
yourself without (much) outside
assistance

B) the ones you can't possibly
solve on your own
(e.g. global problems)

Regarding type A problems,
please read the 'Conclusions for
individuals' section (p. 104) in
chapter 7.

However, looking at the diagram
(from chapter 2) on the next
page, we see that most problems
there are of the B type.

Most of these problems you can't possibly solve on your own.

Problems

Global

Overpopulation

Manipulation of public opinion

Diseases

Pollution

Extinction of species

Economic instability

Overtaxing of natural resources

Crime

Road traffic deaths

War

Human rights violations

Hunger

Public debt

Religious and ethnic conflicts

Poverty

Insufficient education

Public sector mismanagement

Corruption

Industrial accidents

Corporate mismanagement

Bad internal communications

Lack of clear strategies

Internal conflicts

Lack of loyalty

Expenses higher than income

Addictions

Unemployment

Not enough time for your family

Important files lost, no backup

Regional

Organizational

Personal

Fig. 2.1 : problem examples

Now what?

Is this the time to give up on the
global and regional problems?

No.

It's true, you can't expect to solve
any of those problems by next
week. Even if you would team up
with 'a million' other people.

**But this is completely different if
you look 5, 10 or 20 years ahead.**

Relatively small improvements
in your own decision making
skills can make a lot of difference
over time.

And if you **share your skills and
knowledge with others, and they
do the same again**, the difference
could be big enough to change
the world.

This is not a fantasy.

The spreading of skills,
knowledge and ideas has worked
before. In fact, it is changing the
world all the time.

Chapter 9 progress

Intro **done**

What you can do if you are ... a teacher

... a student

... a parent

... a politician / public servant

... a journalist

... a 'normal citizen'

up next

Chapter 9 summary

If you are a teacher, you could:

- let your class discuss the concepts described in this book (or just a particular chapter, appendix, or diagram)
- do practical decision making exercises with your students. Show the difficulties and how to overcome them

- let them compare alternative options visually, by making suitable diagrams (see appendices F, p. 356, and G, p. 441, for suggestions)

- teach your students how to recognize and resist manipulation attempts (especially by mass media)

- encourage critical and logical thinking in general

If you are a student, you could:

- ask your teacher to consider the suggestions on the previous page
- discuss 'problems, decision making and quality of life' subjects with your friends (see also appendix A, p. 148)

- when possible, choose such subjects in your assignments

- ask questions and demand transparency when confronted with decisions affecting yourself

- where appropriate, try to establish a decision making procedure in your class (for common decisions)

If you are a parent, you could:

- talk about the 'bad decisions cause problems, good decisions avoid/solve problems' concept with your child (use real life examples)
- compare your options visually (draw diagrams) before making important decisions in your family (see appendices F, p. 356, and G, p. 441, for suggestions)

- teach your child how to recognize and resist manipulation attempts. For instance, read news articles together and discuss the views they convey (biased? how? why?)
- encourage logical and far-sighted thinking (e.g. by playing games such as chess with your child)

More than
halfway
through.

Chapter 9 progress

Intro	done
What you can do if you are ... a teacher	done
... a student	done
... a parent	done
... a politician / public servant	up next
... a journalist	
... a 'normal citizen'	
Chapter 9 summary	

If you are a politician, or a public servant, you could:

- support transparent decision making (by words and action). Start by setting a good example in your own office
- put 'establish quality standards for decision making' very high up on your to-do list (see appendix E, p. 294)

- support decision making education in schools (again, by words and action)

- train yourself to be realistic about what your mind can or cannot do. Avoid 'denial mode' (see chapter 6, p. 62)

- flag any conflict of interest that might interfere with your foremost duty: to serve the public

If you are a journalist, you could:

- point out shortcomings, achievements and possible improvements when writing about political decision processes
- point out 'pros and cons' and possible consequences when writing about political decision options

- use diagrams to make complex situations more transparent (see appendices F, p. 356, and G, p. 441, for suggestions)
- clearly separate and label facts and opinions (yours or others) in all your articles
- refrain from using rhetoric tricks and all other manipulation methods. Let your audience do their own thinking

If you are a 'normal citizen', you could:

- follow any mentioned suggestions which suit you

for instance,
from the student page:

- discuss 'problems, decision making and quality of life' subjects with your friends (see also appendix A, p. 148)

- support politicians who (by words and action) work for more transparency and better quality standards for decision making

- avoid consuming, and paying for, media content which is biased and manipulative. Don't finance people who want to brainwash you

Chapter 9 progress

	Intro	done
What you can do if you are ... a teacher		done
... a student		done
... a parent		done
... a politician / public servant		done
... a journalist		done
... a 'normal citizen'		done
Chapter 9 summary		up next

Chapter 9 summary

If you want to live in a world with less problems,
consider contributing towards this goal.

You can do this by improving your decision making
skills, by making better decisions yourself
and by convincing others to do the same.

You don't have to aim for perfection.
Aim for doing better than average.

Over time, a large number of people doing better
than average will cause the average to move.
Closer to the goal.

Teachers, politicians and journalists can influence
large audiences by setting good examples, and by
putting decision quality on their agenda.

Chapter 10

Conclusion

A short one

Estimated reading time: 2 minutes

1.

Quality of life is better if there are fewer problems around.

Some problems are even a threat to survival.

2.

Almost all problems are caused by bad decisions.

No problem will be solved well, if at all, without good decision making.

3.

Therefore we must ensure that
our decisions are good,
or at least mediocre, but
definitely not bad.

(What is 'good' or 'bad' depends
on viewpoint, time frame and
values.)

4.

For **private** decisions,
this is best done by knowing
one's own mental limitations, and
how to work around them.

There are proven methods
for that.

For decisions affecting the **public**,
this is best done by establishing
and enforcing quality standards
for decision making.

Where they exist, they must be
improved, mostly towards better
transparency and efficiency.

5.

Many of today's political decision makers will oppose such changes, which would expose flaws in their work.

6.

If we want these changes to happen soon, personal effort and strong public pressure are required.

It's up to us,
the generations currently
responsible for this planet.

7.


Educating the next generations
about all this is absolutely
essential.

The mechanics of decision
making must become common
knowledge.

8.

If we succeed, see point 1.

If we fail: also see point 1.



... same text, but
on a single page.

Conclusion overview

1. **Quality of life is better if there are fewer problems around.**
Some problems are even a threat to survival.
2. Almost all problems are caused by bad decisions.
No problem will be solved well, if at all, without good decision making.
3. Therefore we must ensure that our decisions are good,
or at least mediocre, but definitely not bad.
(What is 'good' or 'bad' depends on viewpoint, time frame and values.)
4. For private decisions, this is best done by knowing one's own mental limitations,
and how to work around them. There are proven methods for that.

For decisions affecting the public, this is best done by establishing and enforcing
quality standards for decision making. Where they exist, they must be improved,
mostly towards better transparency and efficiency.
5. Many of today's political decision makers will oppose such changes,
which would expose flaws in their work.
6. If we want these changes to happen soon, personal effort and
strong public pressure are required.
It's up to us, the generations currently responsible for this planet.
7. Educating the next generations about all this is absolutely essential.
The mechanics of decision making must become common knowledge.
8. If we succeed, see point 1. If we fail, also see point 1.

30 second summary

Problems can make us unhappy (or kill us).

Almost all problems are caused by bad decisions.

Hence we must avoid bad decisions.

This is not easy, because many factors hinder good decision making.

But it is possible to identify and to overcome these hindering factors.

If we do this systematically, we will have fewer problems.

Our quality of life would then be better.

Good decision making requires specific education.

Contents

done with these chapters

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Where do they come from? 11 | 7. How to overcome the factors that hinder good decision making
Approaches and methods 69 |
| 3. What is a 'good' or 'bad' decision?
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Appendix A

Quality of life as a decision criterion

The most important one?

An important part of decision making is the **evaluation** of available options.

Decision makers who work systematically therefore compile a **list of criteria**, and then evaluate the option/criterion combinations.

Examples of often used criteria are: total costs, expected gain, implementation time, feasibility.

Quality of life is seldom found on a criteria list.

This gives the impression that it is not important or relevant.

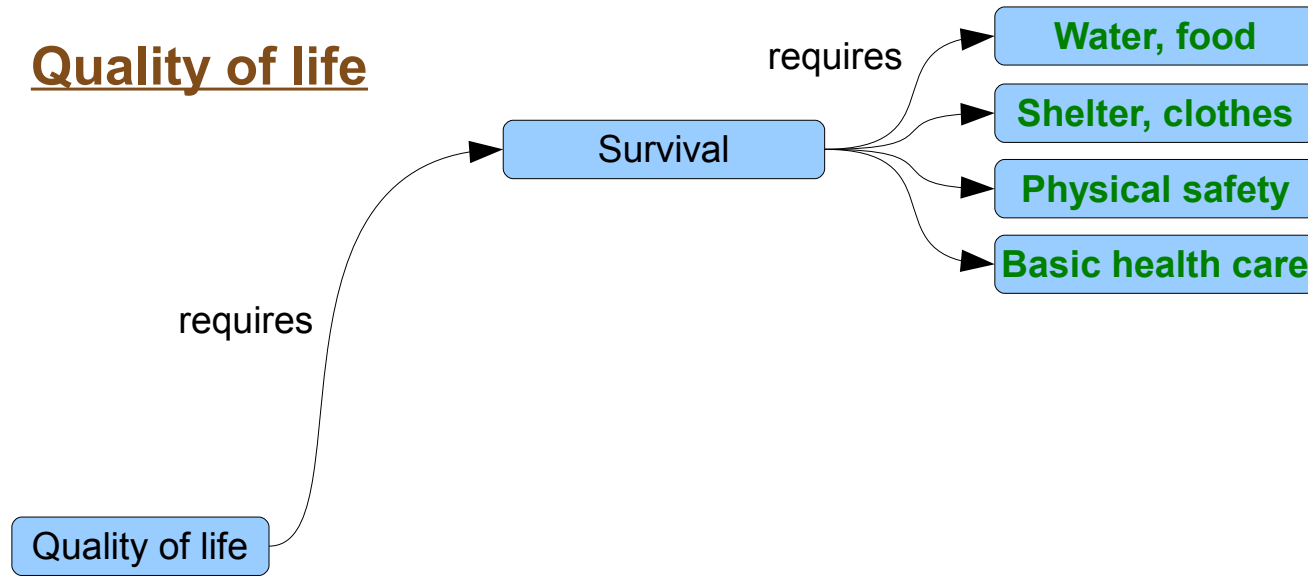
Let's have a closer look.

Appendix A progress

Intro done

Quality of life ...
 ... definition up next
 ... yours and others
... as a decision criterion
 ... and problems

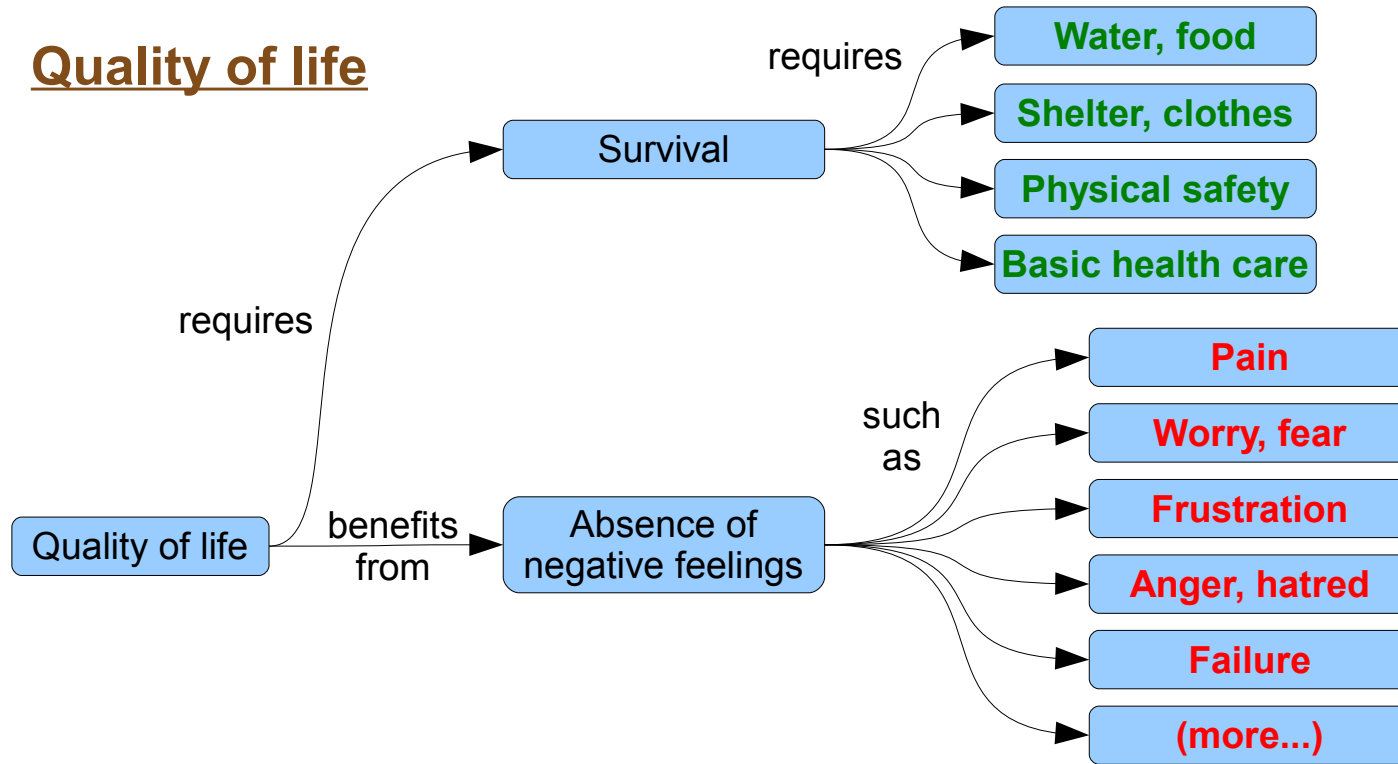
Quality of life



Quality of life depends on
3 factors.

The most essential one is
survival.

Quality of life

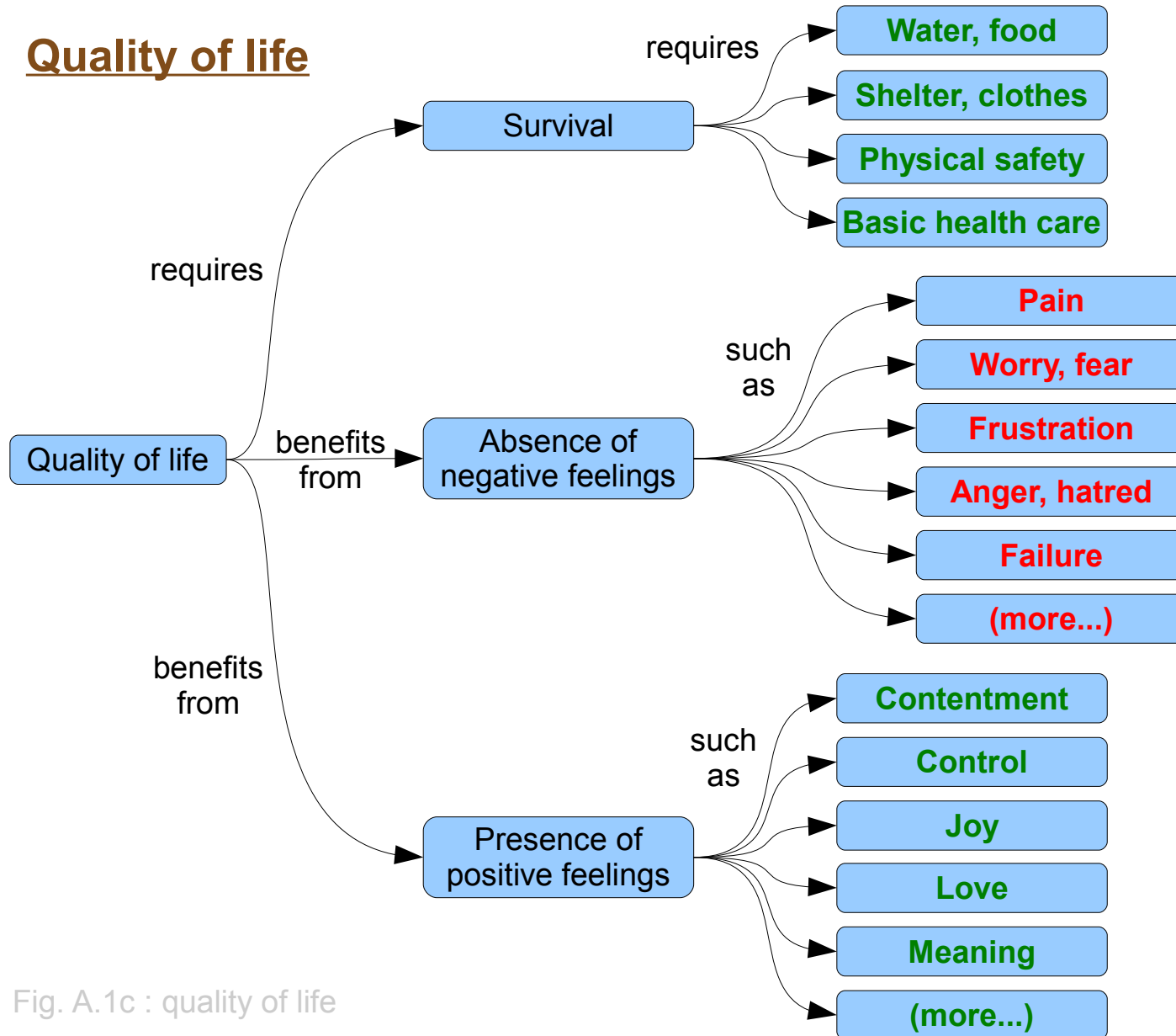


Quality of life depends on
3 factors.

The most essential one is
survival.

The second factor is the
**absence of negative
feelings.**

Quality of life



Quality of life depends on
3 factors.

The most essential one is
survival.

The second factor is the
**absence of negative
feelings.**

The third factor is the
**presence of positive
feelings.**

Fig. A.1c : quality of life

Quality of life can be **positive** ('I enjoy life'), **neutral** or **negative** ('I suffer in life').

Using a high/low scale is also common.

Quality of life is **mostly subjective** by its nature. However, some parts of it can be measured, compared and even predicted by outside observers.

Quality of life can change from minute to minute. But usually one refers to its **average** over days or weeks.

There is a continuous range between the positive and negative extremes.

Quality of life is similar in meaning to **well-being**.

Positive quality of life is similar in meaning to **happiness**.

Periods with negative quality of life are sometimes **in retrospect** regarded as valuable (character building, or otherwise necessary) for one's life.

Such a view can be either well-founded, **or** rather be the result of psychological self defence (the mind creates a more pleasant past for itself).

Both positive and negative feelings can be caused by events that happened in the **past**, are happening in the **present**, or are expected to (possibly) happen in the **future**.

Therefore personal **experiences** and **expectations** can have a strong influence on quality of life.

Example:

Even if your **present** circumstances are just perfect, your quality of life could be negative if you spent **last year** in a war zone, or if you expect to lose your job **next year**.

Appendix A progress

Intro done

Quality of life ...

... definition done

... yours and others up next

... as a decision criterion

... and problems

Apart from **outer circumstances**, your quality of life also depends on your **personality**.

Hence people with different personalities can easily experience **widely different qualities of life** under the same outer circumstances.

Some people have a personal bias towards negative feelings, which is sometimes a survival advantage.

Examples: **fear** can help us to avoid danger, **worries** can motivate us to prepare for future emergencies.

Other people have a personal bias towards positive feelings. They are the happier ones.

Appendix A progress

Intro done

Quality of life ...

... definition done

... yours and others done

... as a decision criterion up next

... and problems

We need to distinguish between
two types of decisions:

A) **personal** decisions,
which affect yourself
and perhaps a few others

B) **larger-scale** decisions,
political or not,
which affect many people

In your **personal** decision making, your quality of life should always be high on your criteria list.

Whether it should top the list depends on your value system (see chapter 3, p. 35).

Specifically, it depends on how important ethical behaviour (or simply consideration for others) is for you.

Selfish individuals will put their own quality of life above everything else.

However, from a civic point of view, it is much better if **ethical behaviour outranks your own quality of life** on your criteria list.

In other words: pursue your happiness, but don't make other people pay for it.

Also in **larger-scale** decision making quality of life should always be considered.

In the case of political decisions, everyone affected by them can rightfully demand just that.

Compared to personal decisions, at least two aspects are different:

1. the decision maker needs to somehow foresee **other people's** quality of life
2. there can be **very many** other people affected

The second aspect can be addressed by considering **groups** rather than individuals.

This reduces the number of considerations from 'unmanageable high' to typically 5 to 10.

A very low number of considered groups could indicate that **minorities** are being ignored.

Examples of such groups:
people who commute by car,
people who commute by public transport, people who are exposed to road traffic noise,
and
people who will live in this region in 50 years

But what about the first aspect?

Attempting to foresee someone else's quality of life is difficult, and the results would often be wrong.

It is much easier to foresee how someone else's quality of life would **change** under certain conditions.

Example: it's hard to tell exactly **how** happy the residents of a suburb will be next week. But if the authorities now announce plans for a nearby chemical factory, it's fair to assume that they will be **less** happy than otherwise.

The bottom line is, the decision maker's criteria list should include (typically 3 to 8) criteria such as these examples:

- **impact** on quality of life for **group A** (people who commute by car)
- **impact** on quality of life for **group B** (people who commute by public transport)

Whether quality of life criteria get **higher** or **lower priority** than other criteria (e.g. costs, profit) depends on the decision maker's value system.

Some decision makers do not care much about other groups' quality of life. Consequently, they prefer not to have those criteria on their lists.

Note:

For more information about value systems, see chapter 3 (p. 35).

A few pages later (p. 38), you can find some requirements for 'good' political decisions.

Note:

Appendix E (p. 294) outlines a quality standard for larger-scale decision making processes.

Appendix F (p. 356) shows how to maintain an overview over hundreds of option/criterion/view combinations.

The following applies to both personal and large-scale decision making.

There is another reason why quality of life is seldom found on a criteria list (if there is any):

It is easily **confused with other criteria** such as income, wealth, employment, comfort, status, power and growth.

Any of these criteria can **contribute** to better quality of life, up to a certain point.

Beyond that point, a 'more is better' strategy can cause so serious **unwanted side effects** that quality of life actually becomes worse.

(Unwanted side effects are discussed in appendix C, p. 217)

Sometimes it is smart to have selected criteria more than once on the list, with each instance referring to a different **time frame** (see chapter 3, p. 34).

Examples:

monthly operating costs (this year),
monthly operating costs (in 3 years),
short-term impact on quality of life,
long-term impact on quality of life

Decision makers tend to focus much more on short-term effects than on long-term effects.

But these may differ a lot from each other. In such cases, **poor foresight** will very likely cause problems later on.

Appendix A progress

Intro done

Quality of life ...

... definition done

... yours and others done

... as a decision criterion done

... and problems up next

Quality of life is better if there are fewer problems around.

Some problems are even a threat to survival.

(See chapter 2, p. 11)

The diagram on the next page shows some examples.

Quality of life vs. problems

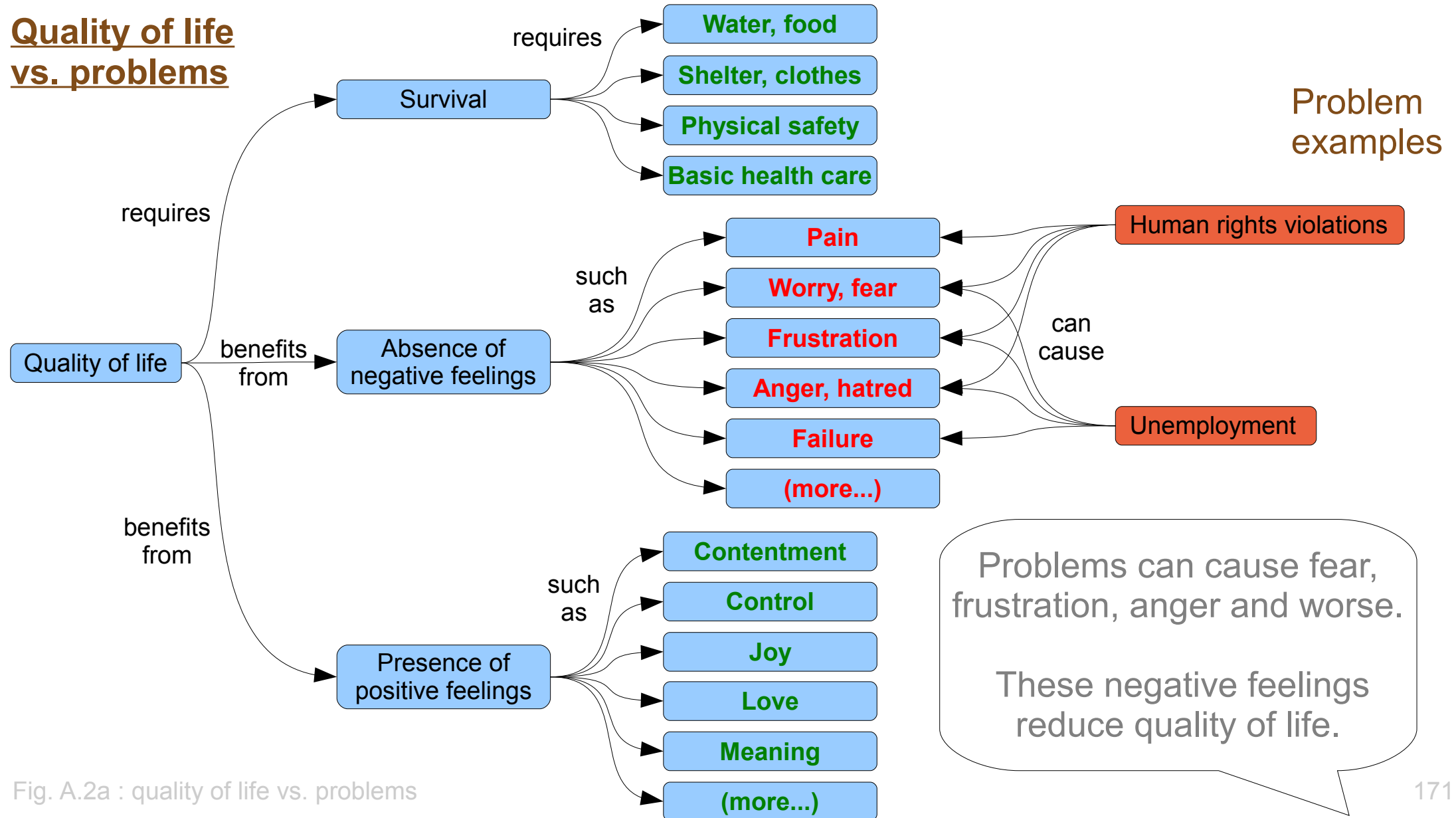


Fig. A.2a : quality of life vs. problems

Quality of life vs. problems

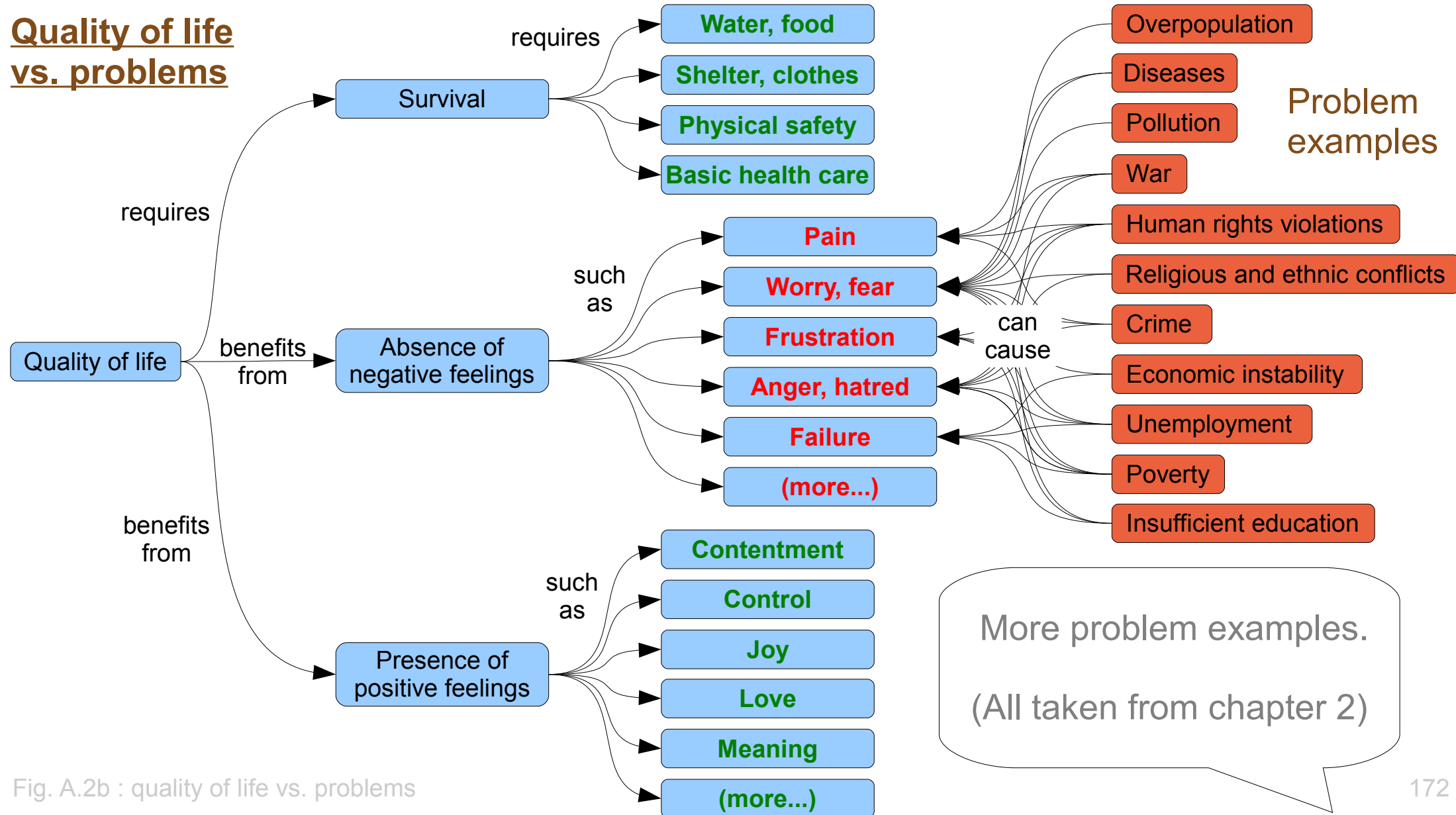


Fig. A.2b : quality of life vs. problems

Quality of life vs. problems

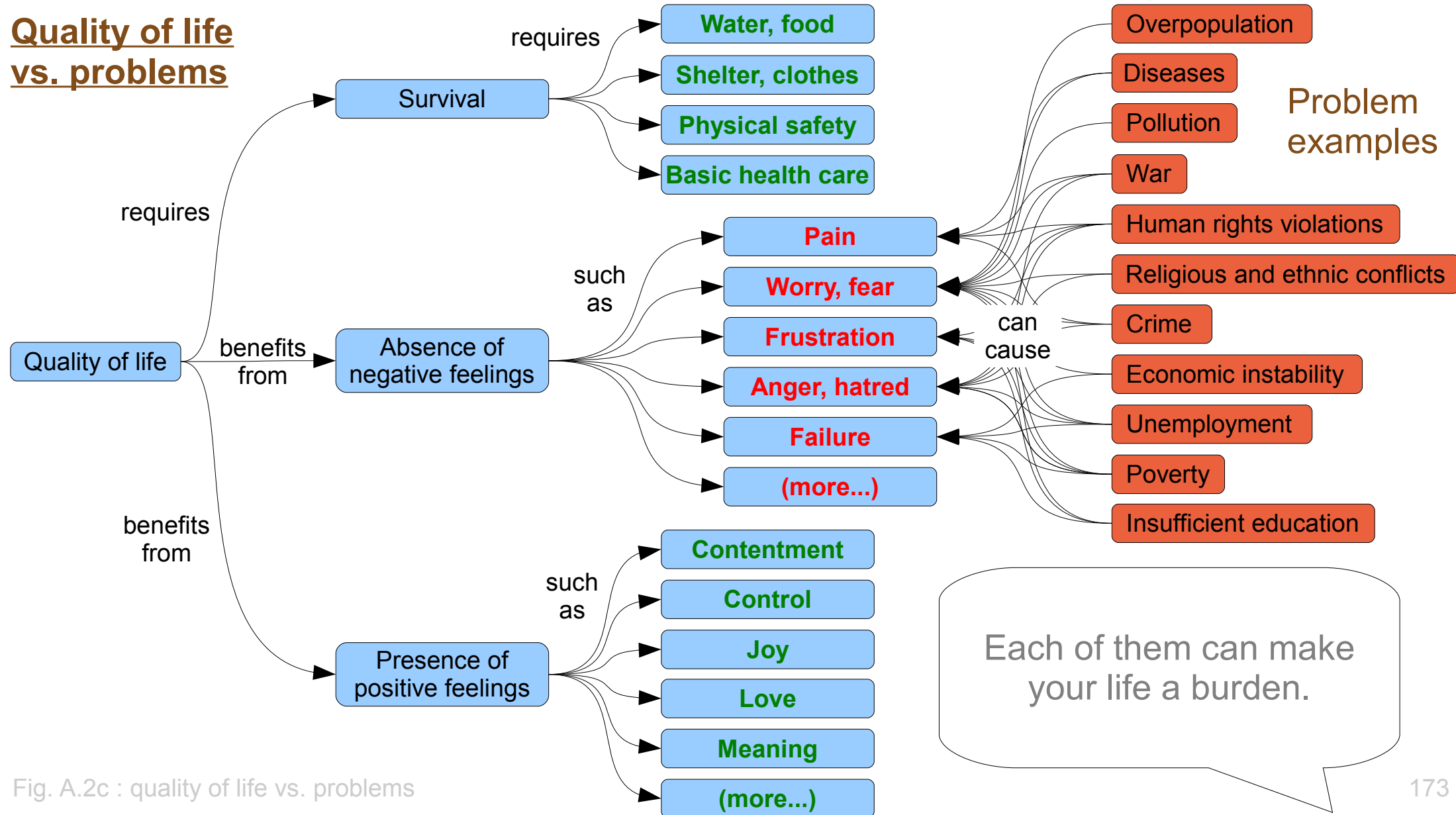


Fig. A.2c : quality of life vs. problems

Quality of life vs. problems

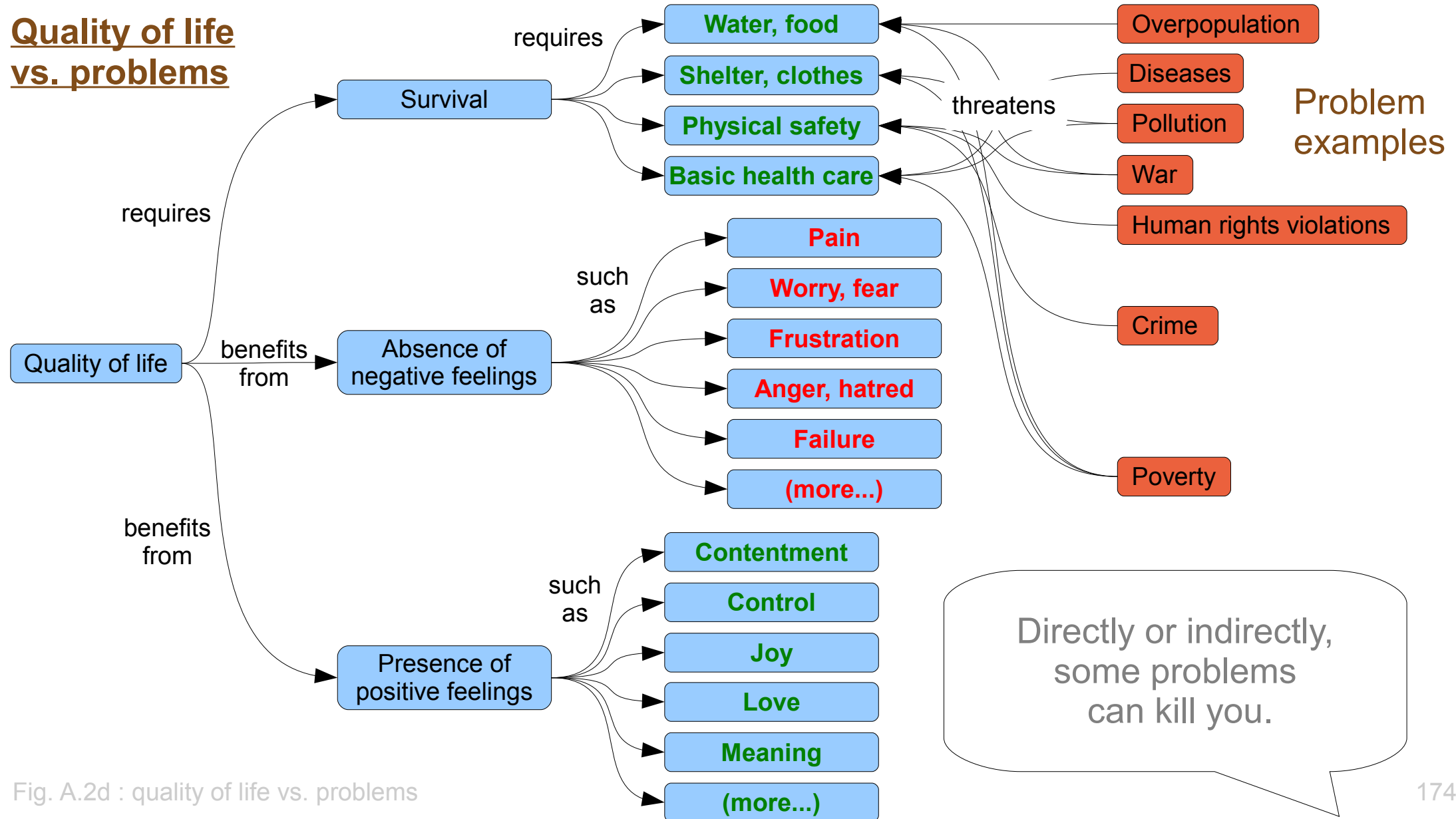


Fig. A.2d : quality of life vs. problems

Quality of life vs. problems

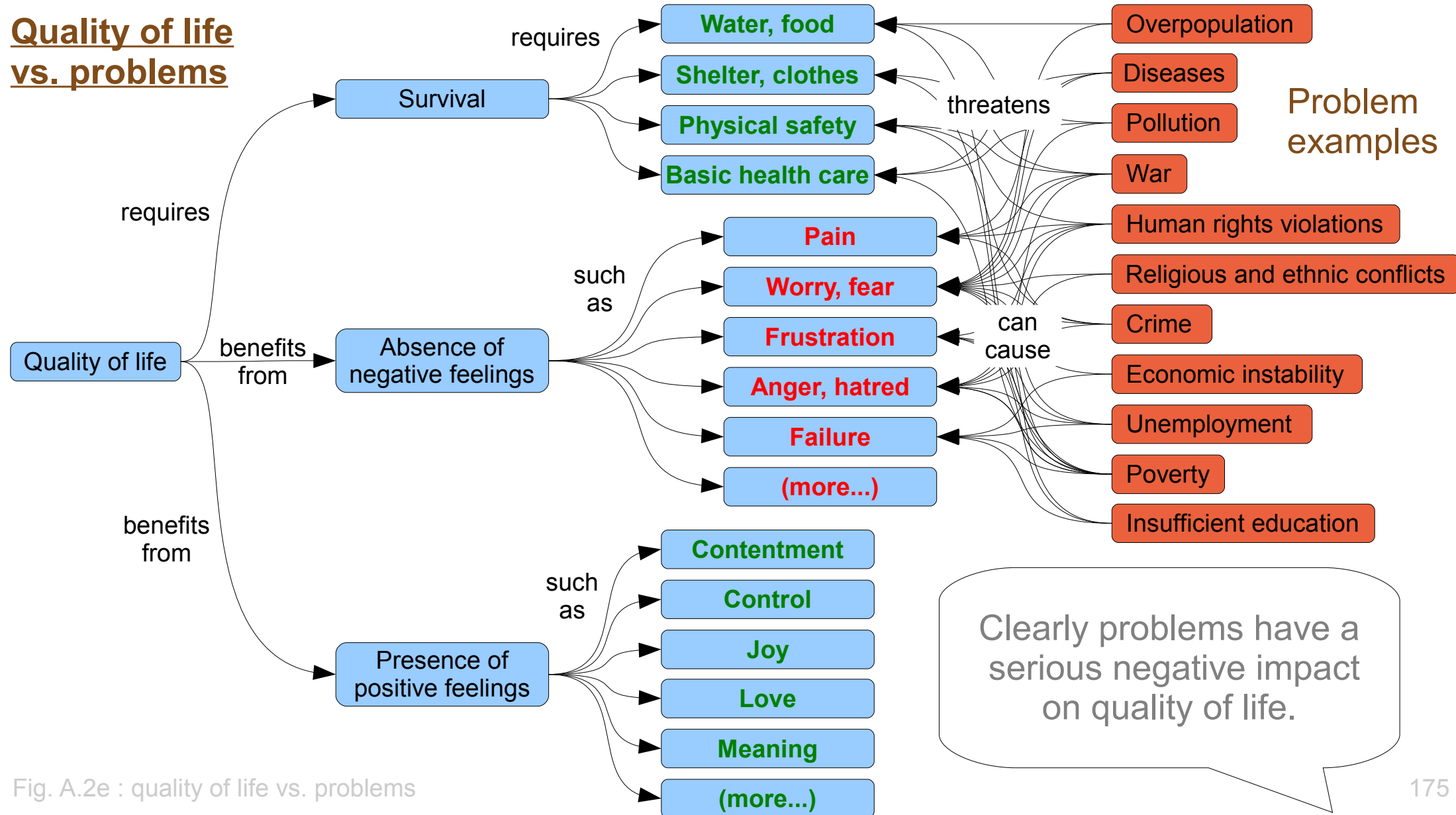


Fig. A.2e : quality of life vs. problems

Quality of life vs. problems

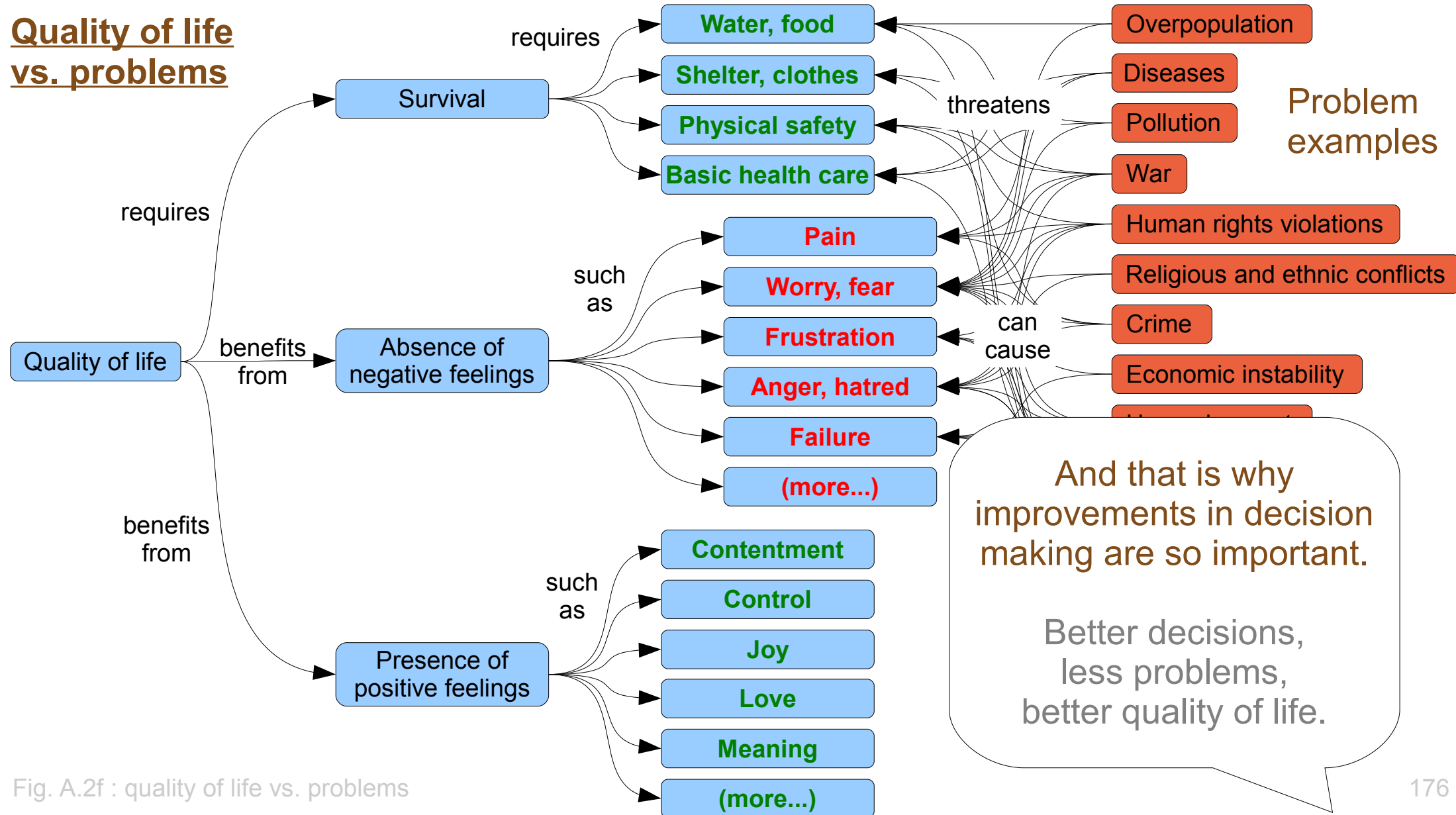


Fig. A.2f : quality of life vs. problems

Appendix B

Is there a 'mother of all problems' ?

How to solve interconnected problems

The answer is probably no.

There is no 'mother' problem, or root cause, from which all other problems originate.

Even suspects like the dark side of human nature, poverty or overpopulation cannot be blamed for everything.

But:

Problems are often connected with other ones. Sometimes they form hierarchical structures, with a 'mother' problem as common origin.

So there are **not one, but many** 'mother' problems.

Let's see what that means for problem solving.

Appendix B progress

Intro done

Starting point up next

Method A: introduction / example

Method B: introduction / example

Appendix B conclusion


Imagine a **scenario** where you're facing not one, but several problems.

Theoretically, if you had unlimited resources available, you could fully engage in solving all those problems simultaneously.

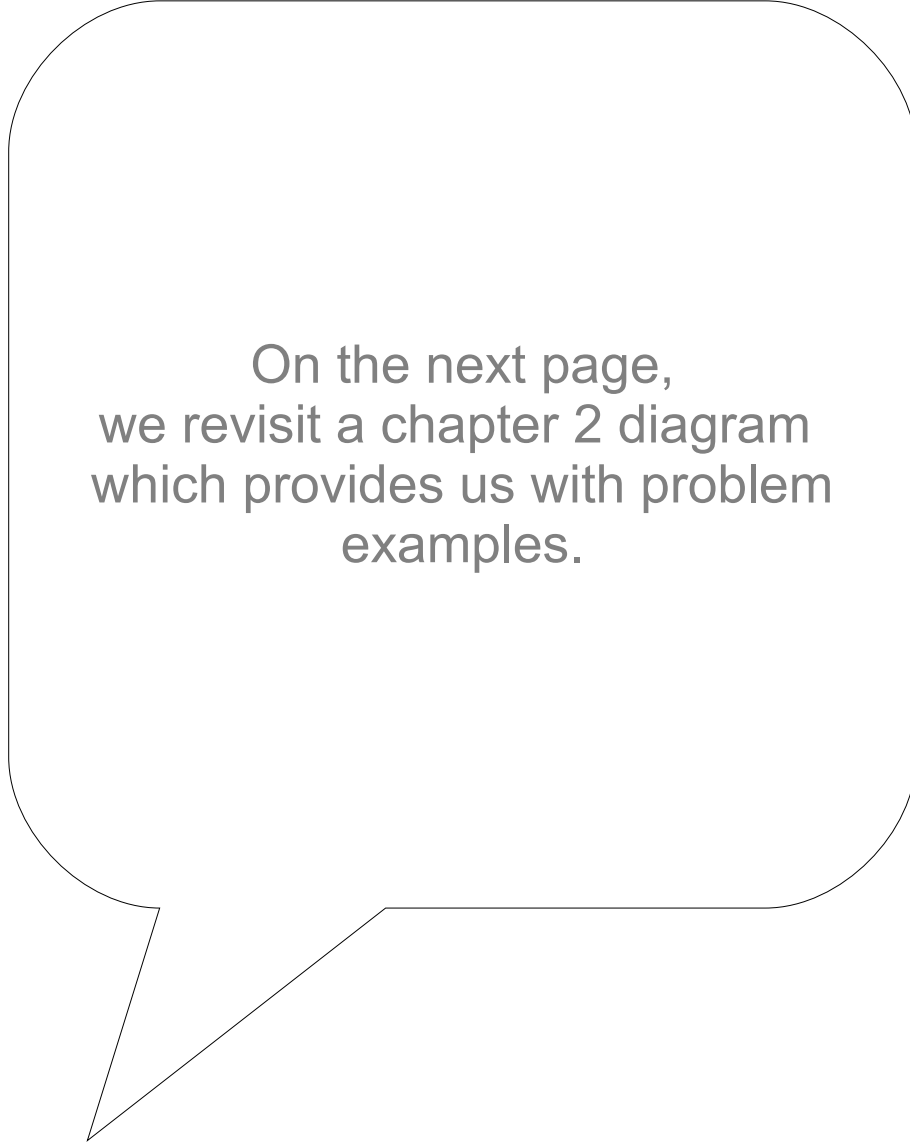
In practice, **your resources are always limited**. You could spread out your efforts, or you could prioritize.

Which approach is better depends on **if** and **how** the problems are connected with each other.

Hence these questions should be answered before choosing an approach.



A good starting point is to make an **overview** diagram which shows all problems in the scenario.



On the next page, we revisit a chapter 2 diagram which provides us with problem examples.

Problem examples
from chapter 2.

If we keep the global
and regional ones ...

Problems

Global

Overpopulation

Manipulation of public opinion

Diseases

Pollution

Extinction of species

Economic instability

Overtaxing of natural resources

Crime

Road traffic deaths

War

Human rights violations

Hunger

Public debt

Regional

Religious and ethnic conflicts

Poverty

Insufficient education

Public sector mismanagement

Corruption

Industrial accidents

Organizational

Corporate mismanagement

Bad internal communications

Lack of clear strategies

Internal conflicts

Lack of loyalty

Personal

Expenses higher than income

Addictions

Unemployment

Not enough time for your family

Important files lost, no backup

Fig. 2.1 : problem examples

... and give them
more space ...

Global

Overpopulation

Manipulation of public opinion

Diseases

Pollution

Extinction of species

Economic instability

Overtaxing of natural resources

Crime

Road traffic deaths

War

Human rights violations

Hunger

Public debt

Religious and ethnic conflicts

Poverty

Insufficient education

Public sector mismanagement

Corruption

Industrial accidents

Regional

Problems

Problem overview (example)

... we get this
diagram (still under
construction).

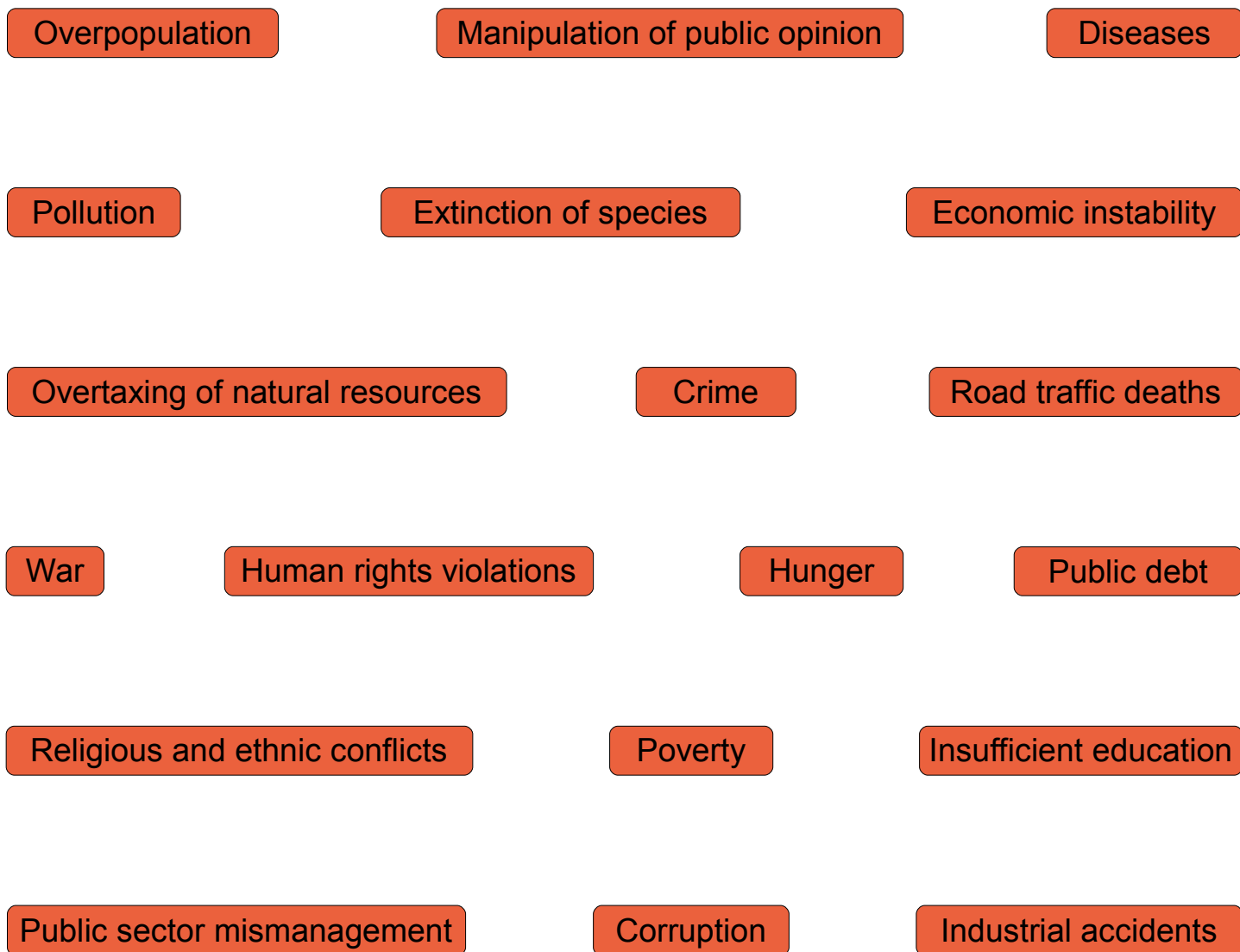


Fig. B.1b : problem overview (example)

Problem overview (example)

Overpopulation

Manipulation of public opinion

Diseases

Pollution

Extinction of species

Economic instability

Overtaxing of natural resources

Crime

Road traffic deaths

War

Human rights violations

Hunger

Public debt

Religious and ethnic conflicts

Poverty

Insufficient education

Public sector mismanagement

Corruption

Industrial accidents

Now it's time to look for
connections between
these problems.

This can be done in
at least two ways.

Method A

Imagine that one particular problem gets solved perfectly.
Which other problems would disappear or decrease?

Draw connection arrows in the diagram. State your reasons.

Do this with all problems in the scenario.

Method B

Change your perspective.
Imagine that you need to maintain (not solve) a particular problem.
Make a list of its 'success factors'.

Are there 'success factors' which depend on other problems?

Draw arrows accordingly.

Do this with all problems in the scenario.

Appendix B progress

Intro done

Starting point done

Method A: introduction / example up next

Method B: introduction / example

Appendix B conclusion

Note:

Please understand that this and the next section **introduce** method A and B, using well-known problems as examples.

A fully detailed analysis is beyond the scope of this text.

Interconnected problems (method A example)

Let's use method A
on the **overpopulation**
problem.

Please imagine a global
population of about 500
million people. That
would certainly not be
an overpopulation.

Which other problems
would disappear or
decrease?

Overpopulation

Manipulation of public opinion

Diseases

Pollution

Extinction of species

Economic instability

Overtaxing of natural resources

Crime

Road traffic deaths

War

Human rights violations

Hunger

Public debt

Religious and ethnic conflicts

Poverty

Insufficient education

Public sector mismanagement

Corruption

Industrial accidents

Fig. B.2a : interconnected problems (method A example)

Interconnected problems (method A example)

The **pollution** problem would decrease nearly proportionally, and almost disappear.

Assuming a per person unchanged consumption pattern, the global consumption of 'everything' (energy, products, services) would drop very significantly, and pollution with it.

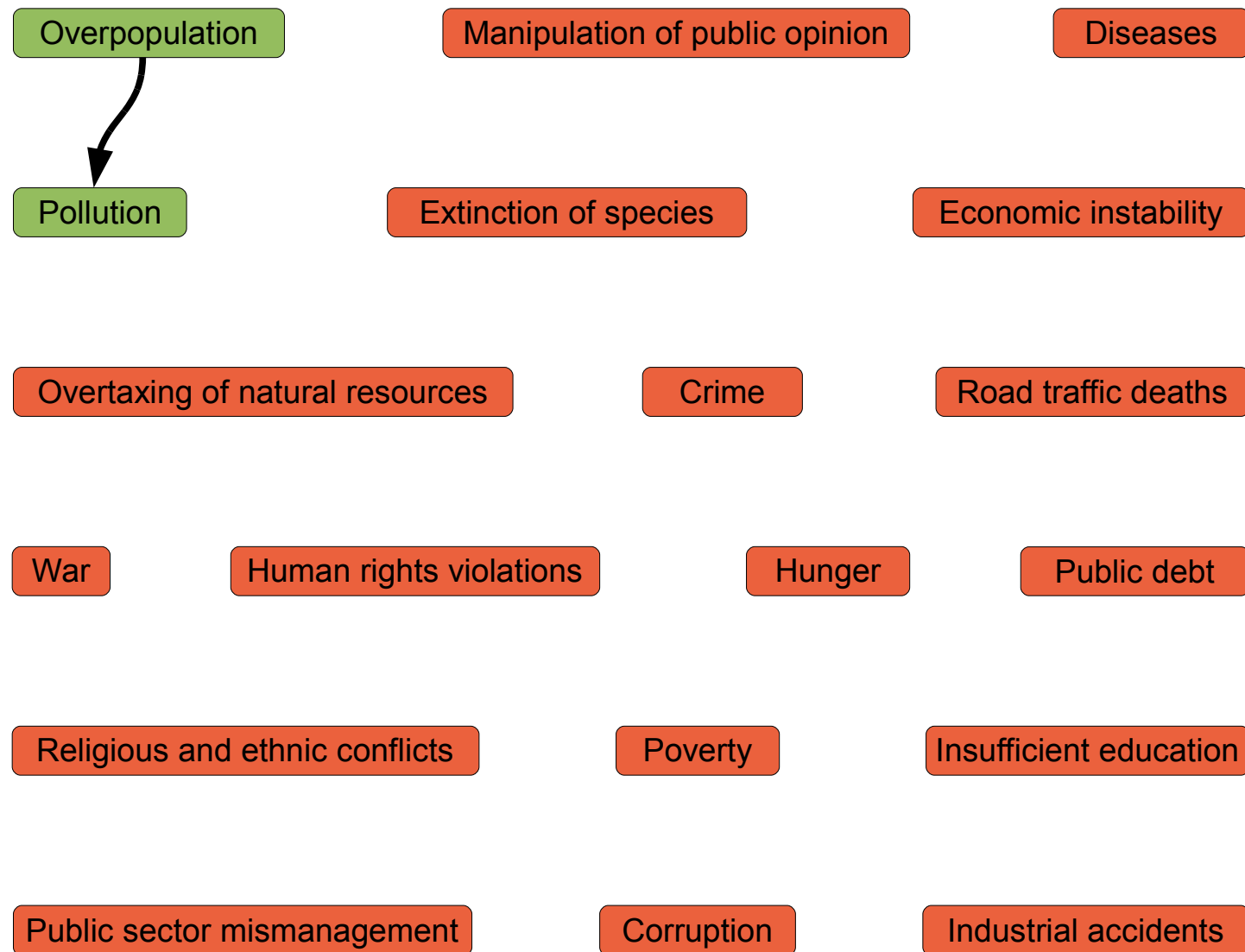


Fig. B.2b : interconnected problems (method A example)

Interconnected problems (method A example)

The **extinction of species** problem would decrease, but not disappear.

A smaller human population would interfere far less with the habitats of endangered species.

Less pollution would also help a lot.

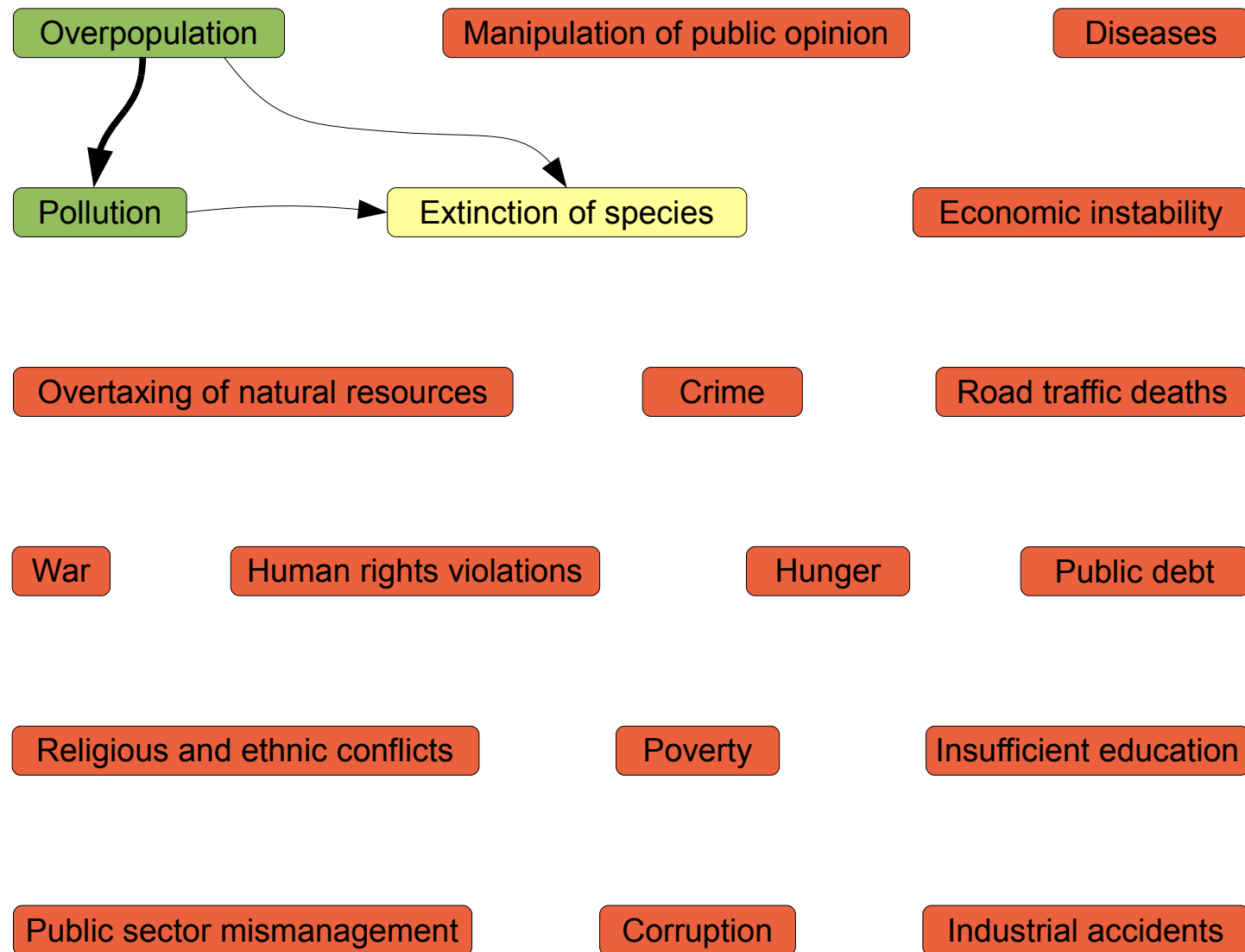


Fig. B.2c : interconnected problems (method A example)

Interconnected problems (method A example)

The **extinction of species** problem would decrease, but not disappear.

A smaller human population would interfere far less with the habitats of endangered species.

Less pollution would also help a lot.

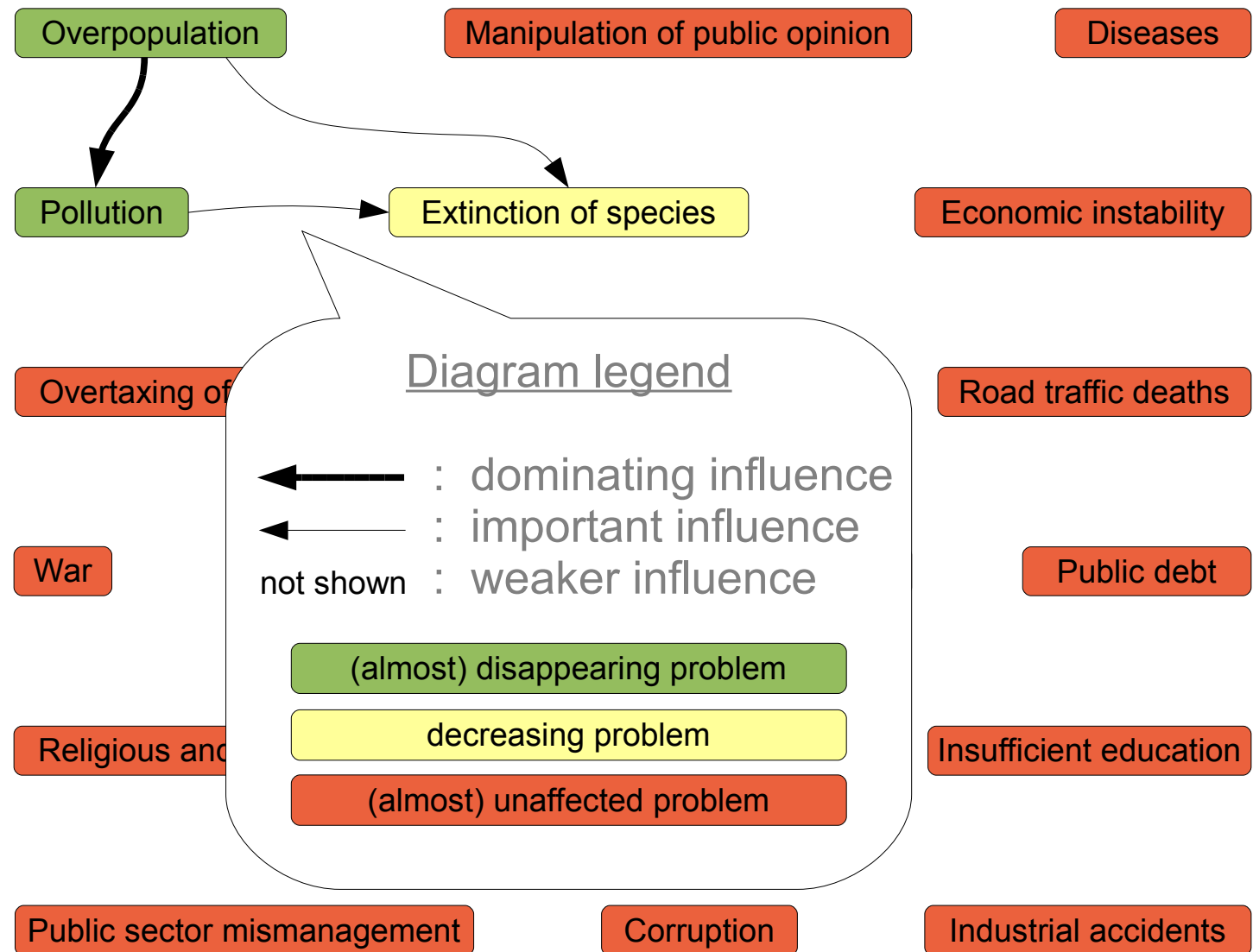


Fig. B.2d : interconnected problems (method A example)

Interconnected problems (method A example)

The **diseases** problem would decrease, but not disappear.

Contagious diseases spread slower and are easier to control in less densely populated areas.

Diseases caused by pollution would decrease very significantly.

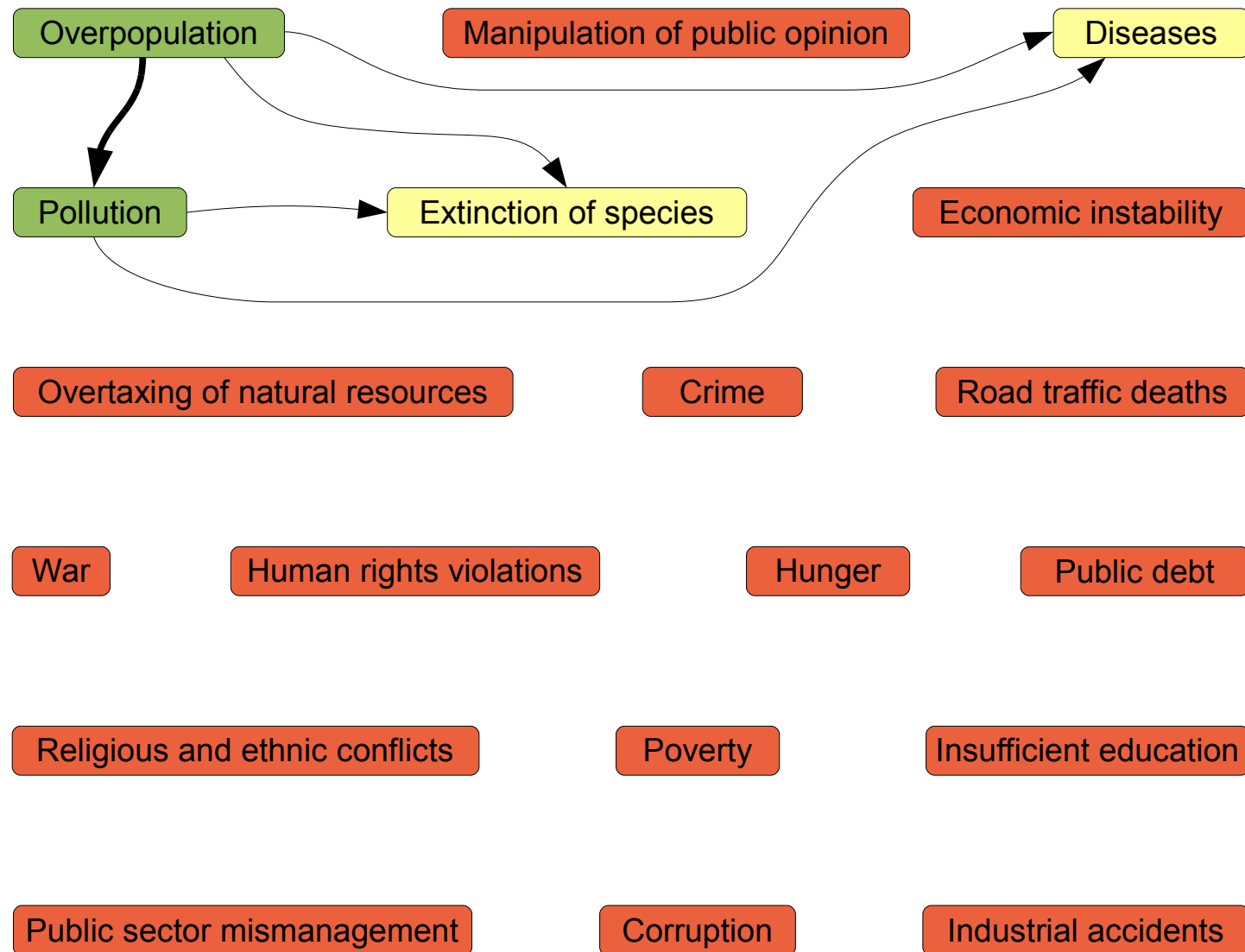


Fig. B.2e : interconnected problems (method A example)

Interconnected problems (method A example)

The **overtaxing of natural resources** problem would almost disappear.

The demand for food and energy would drop to sustainable levels.

Overfishing and deforestation would stop.

Neither fossil nor nuclear fuels would be required as energy source.

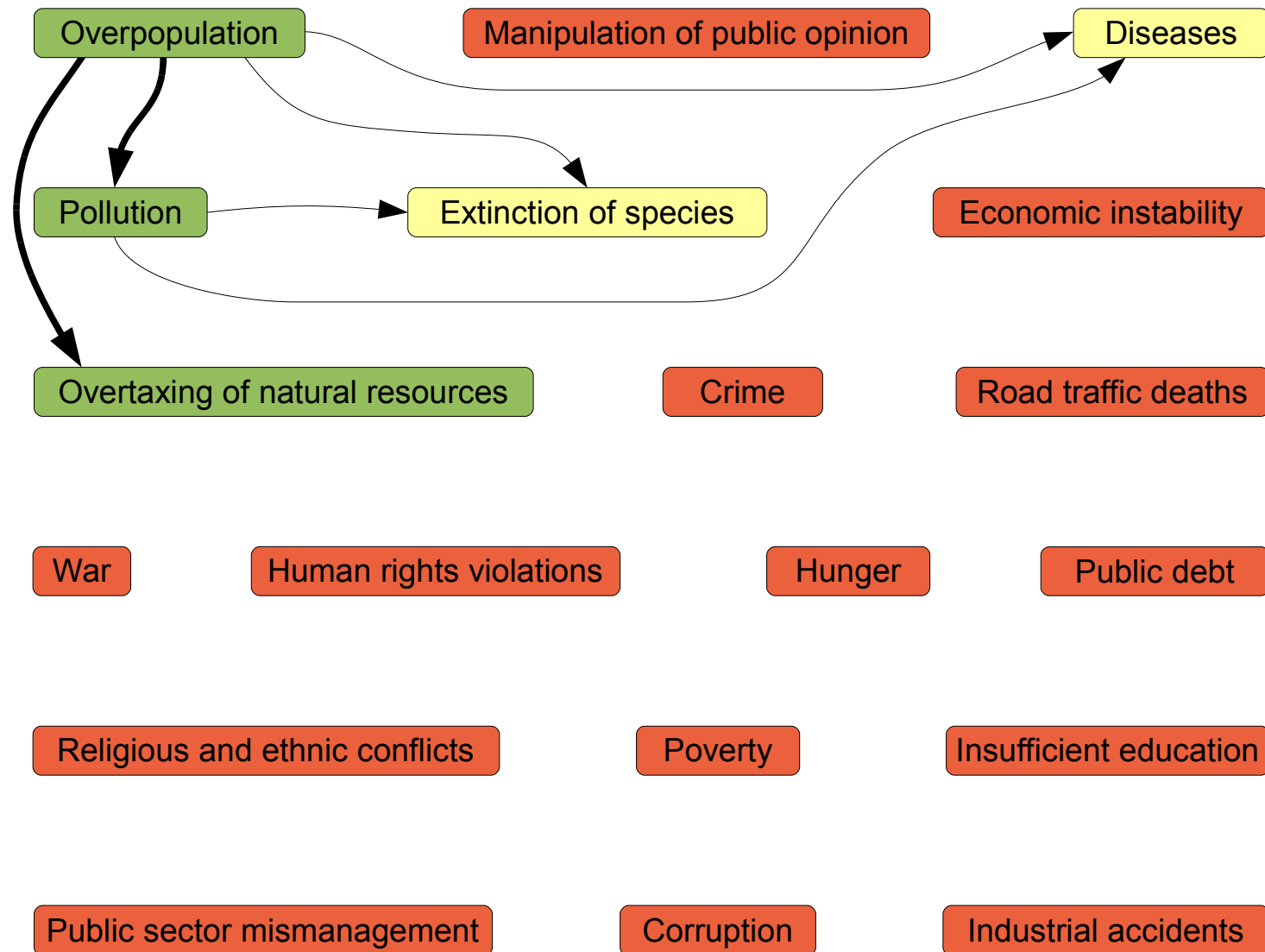


Fig. B.2f : interconnected problems (method A example)

Interconnected problems (method A example)

The **war** problem
would decrease, but not
disappear.

Fighting for resources
would happen less often
if these resources were
less scarce.

Along with war, **human
rights violations** would
decrease.

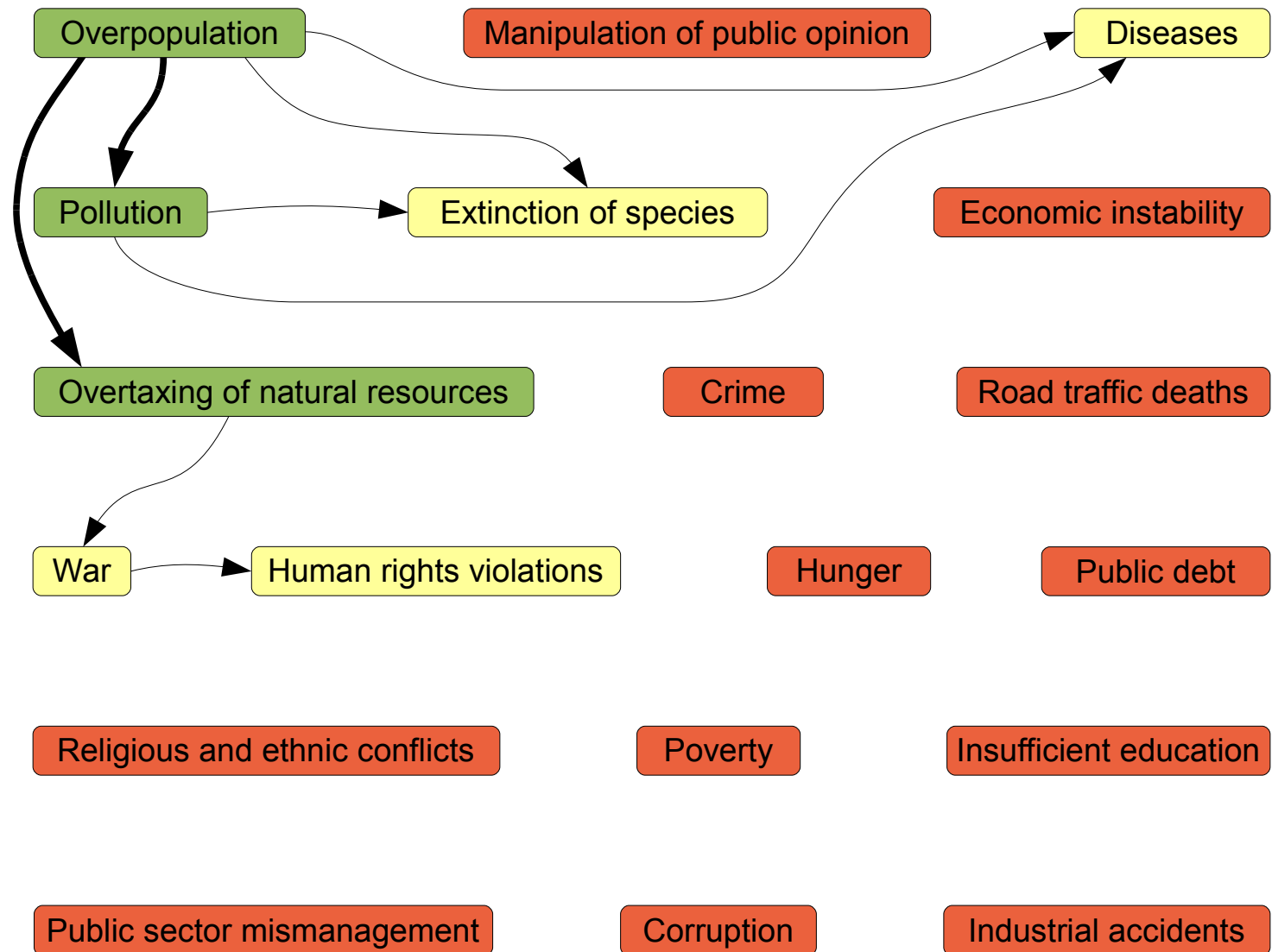


Fig. B.2g : interconnected problems (method A example)

Interconnected problems (method A example)

The **hunger** problem would decrease, but not disappear.

Food production depends on natural resources, which could easily satisfy the now smaller demand.

Along with hunger, hunger-related **diseases** would decrease.

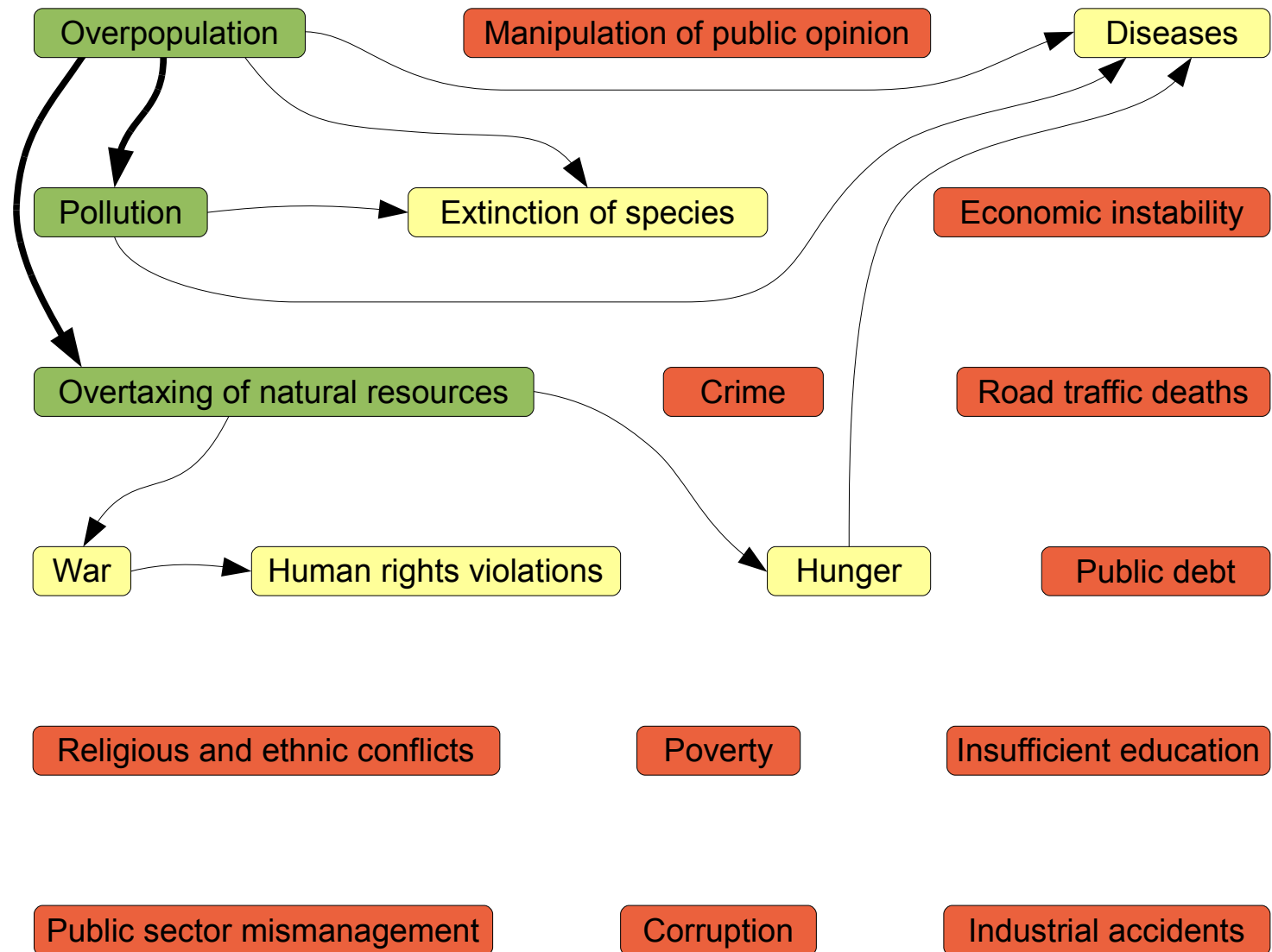


Fig. B.2h : interconnected problems (method A example)

Interconnected problems (method A example)

The **poverty** problem would decrease, but not disappear.

People who have access to enough natural resources (also other than those used for food production) are usually not poor.

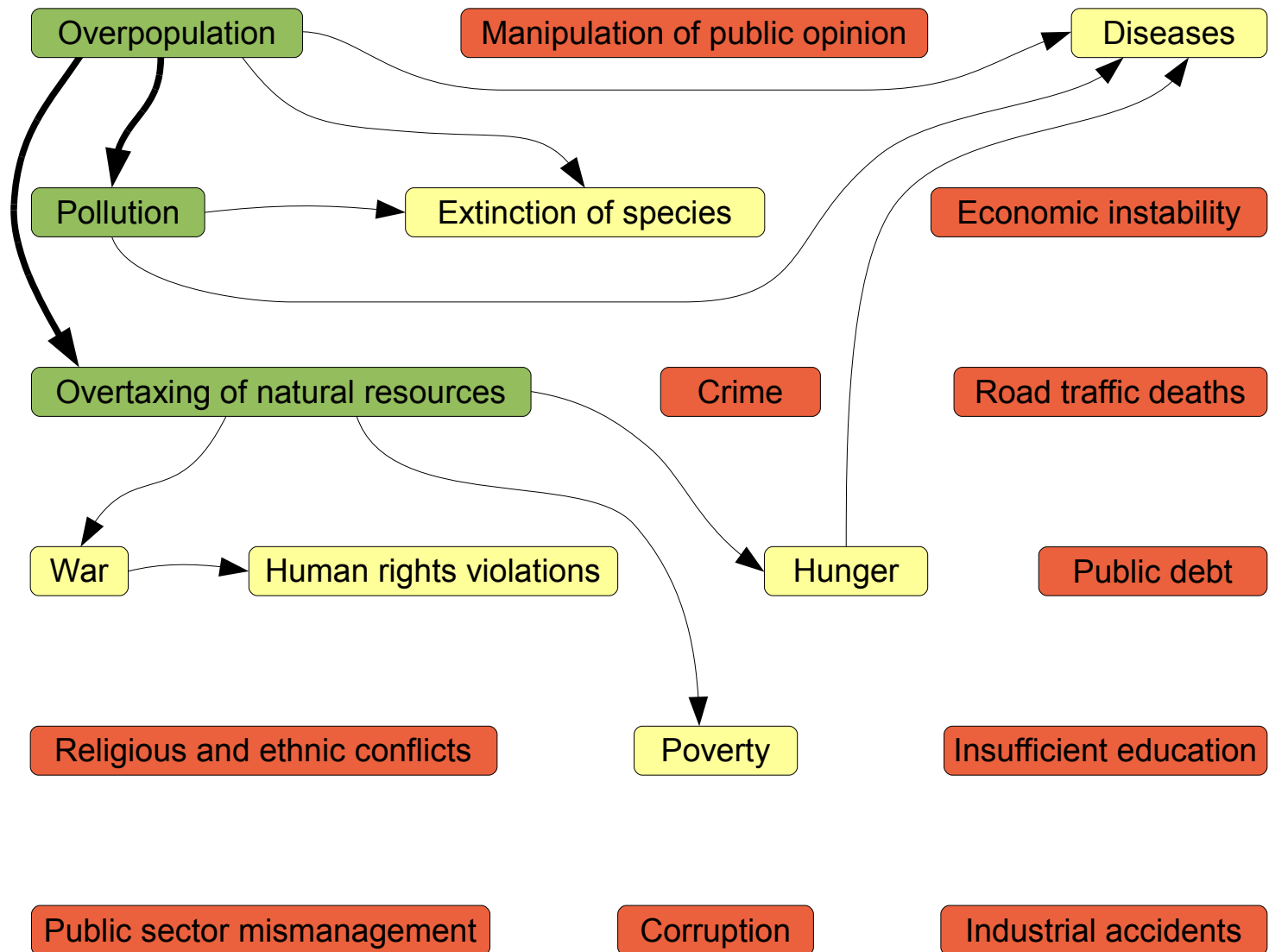


Fig. B.2i : interconnected problems (method A example)

Interconnected problems (method A example)

Along with poverty,
hunger and insufficient
education would
decrease.

There would be more
money available for food,
and for better education
systems.

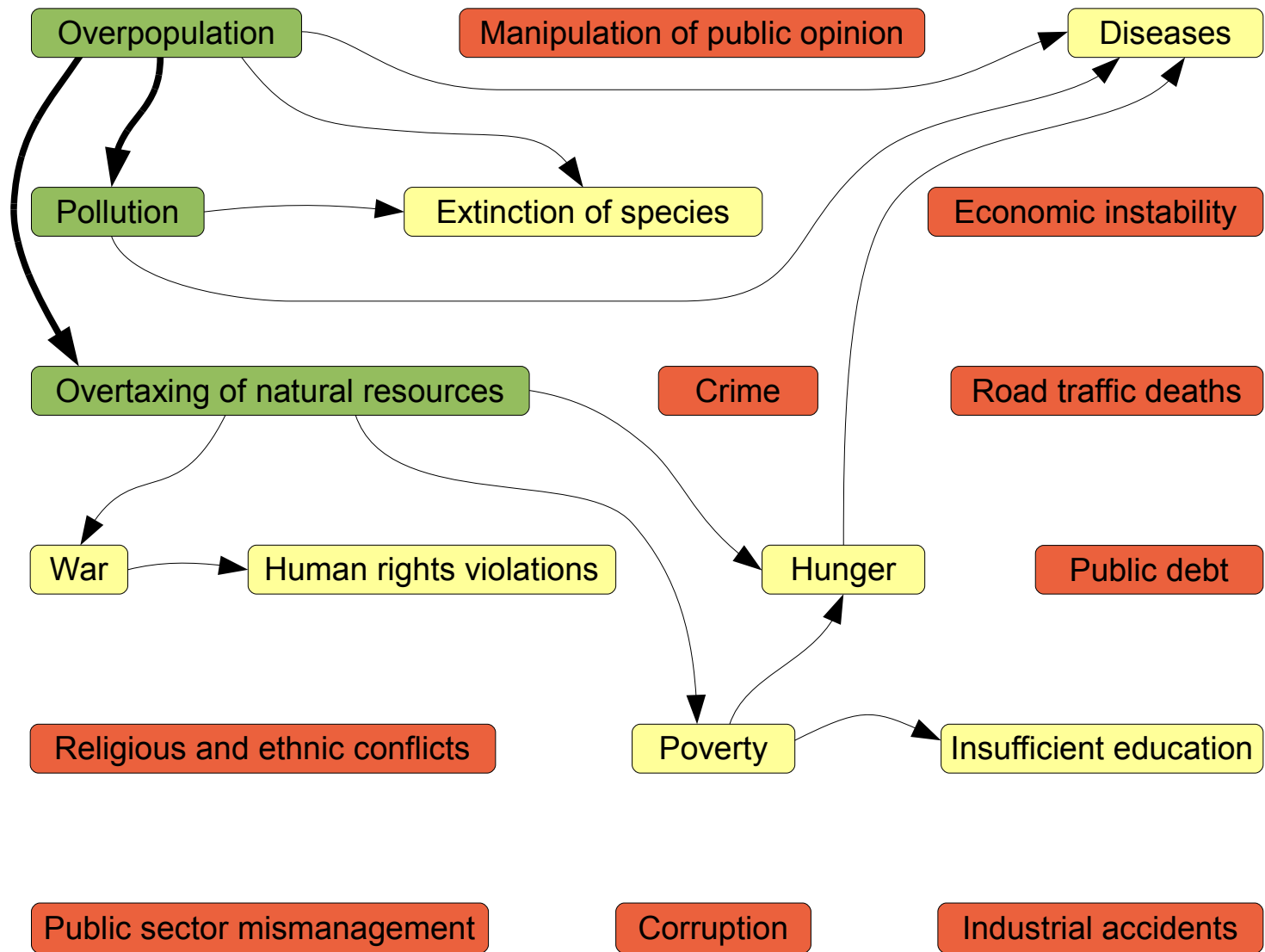


Fig. B.2j : interconnected problems (method A example)

Interconnected problems (method A example)

Insufficient education means lack of skills and/or knowledge, and that has a negative influence on the **poverty** and **overpopulation** problems.

Now there are two connection **loops** in this diagram. Such loops make problem solving more difficult.

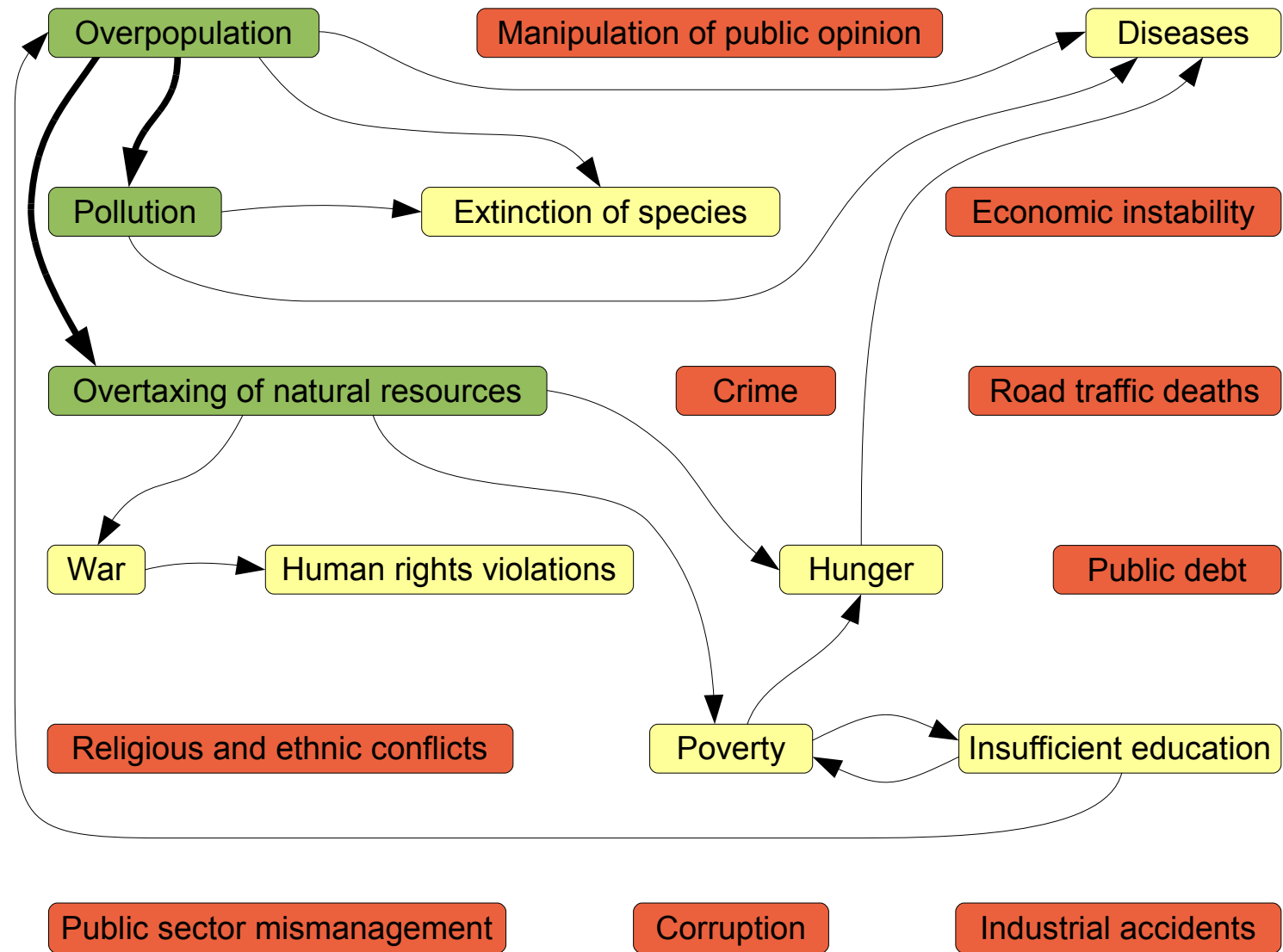


Fig. B.2k : interconnected problems (method A example)

Interconnected problems (method A example)

There are no strong connections between overpopulation and the remaining 'red box' problems.

Of course, all **absolute** numbers would drop, but numbers **relative** to the population count would not change much.

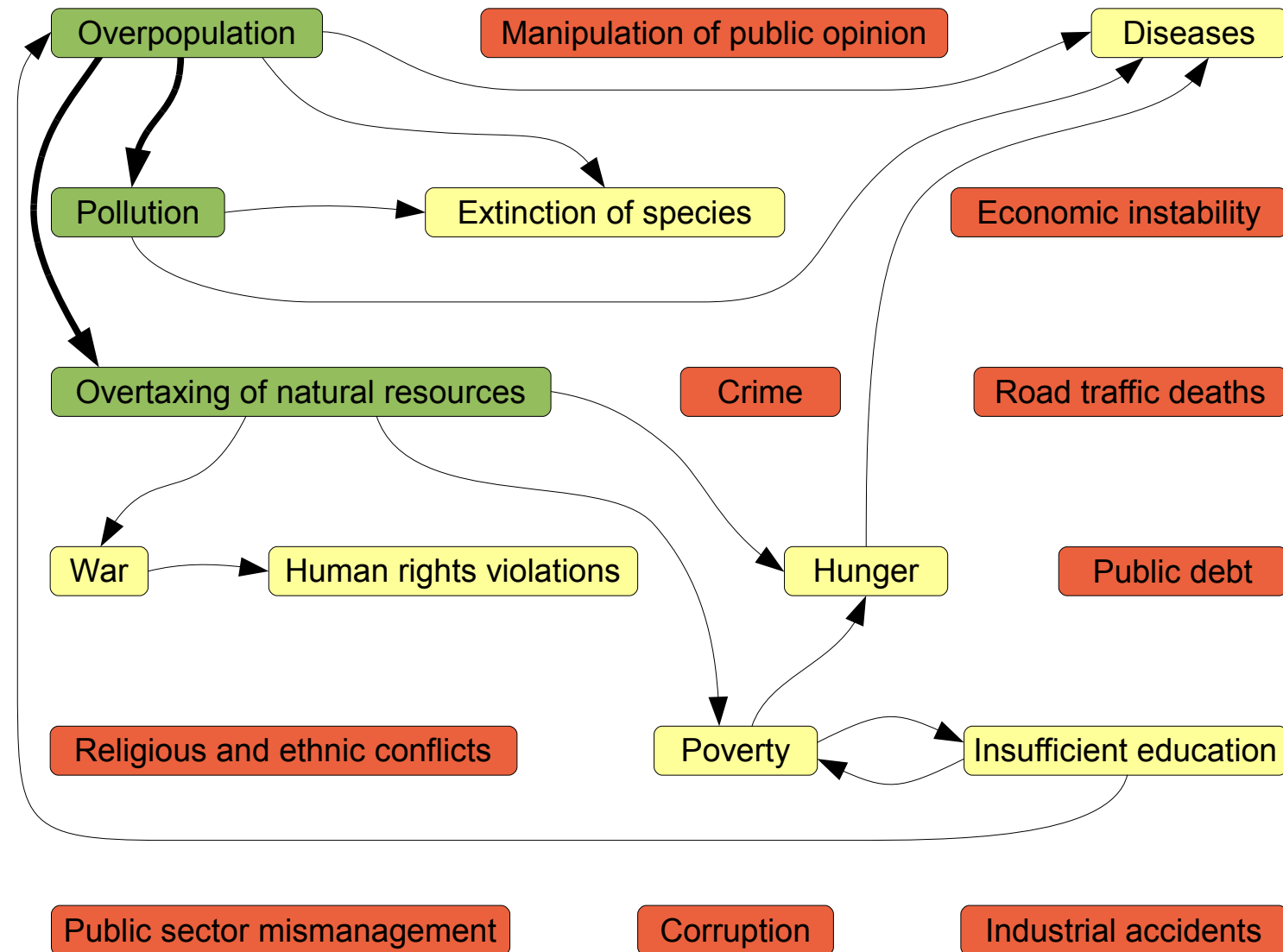


Fig. B.2l : interconnected problems (method A example)

Interconnected problems (method A example)

To see **all connections**
we would have to apply
method A in turn to all
other problems.

But our example ends
here.

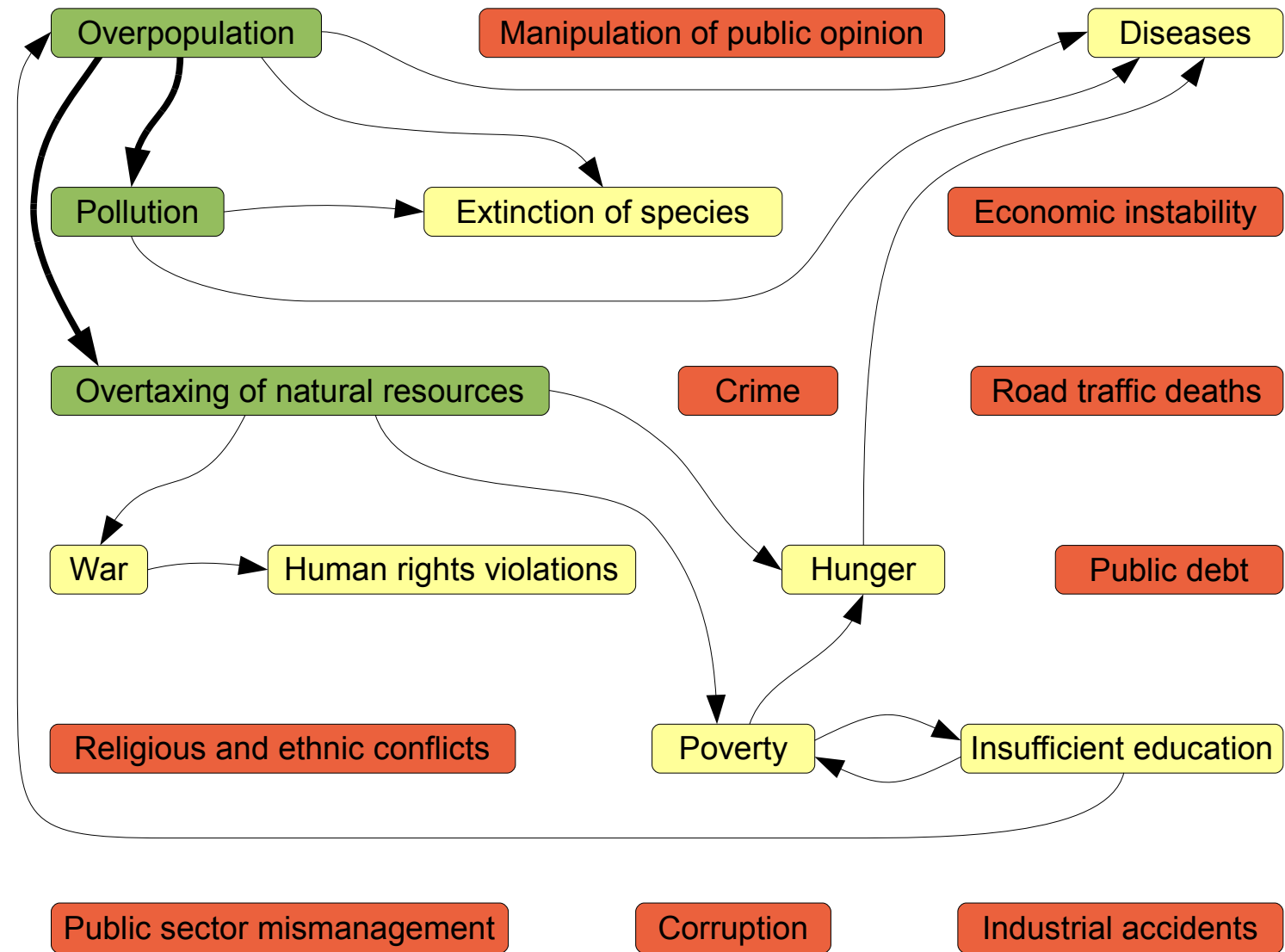


Fig. B.2m : interconnected problems (method A example)

In the example shown,
overpopulation appears as the
origin of other problems, and
solving it as a very efficient
course of action.

It's a kind of 'buy one, get 2 for free,
and 7 for half price' offer.

But it would be hard to achieve that
without also addressing the
insufficient education problem.

Ironically, solving the
overpopulation problem does not
require large funds or advanced
technology at all. Just long-term
thinking (beyond the economics
of temporary demographic
changes), and political will.

Appendix B progress

Intro done

Starting point done

Method A: introduction / example done

Method B: introduction / example up next

Appendix B conclusion

Interconnected problems (method B example)

Let's use method B
on the **extinction of
species** problem.

We change our
perspective, and imagine
that we need to maintain
(not solve) this problem.

First we make a list of its
'success factors'.

Overpopulation

Manipulation of public opinion

Diseases

Pollution

Extinction of species

Economic instability

Overtaxing of natural resources

Crime

Road traffic deaths

War

Human rights violations

Hunger

Public debt

Religious and ethnic conflicts

Poverty

Insufficient education

Public sector mismanagement

Corruption

Industrial accidents

Fig. B.3a : interconnected problems (method B example)

Interconnected problems (method B example)



Fig. B.3b : interconnected problems (method B example)

Interconnected problems
(method B example)

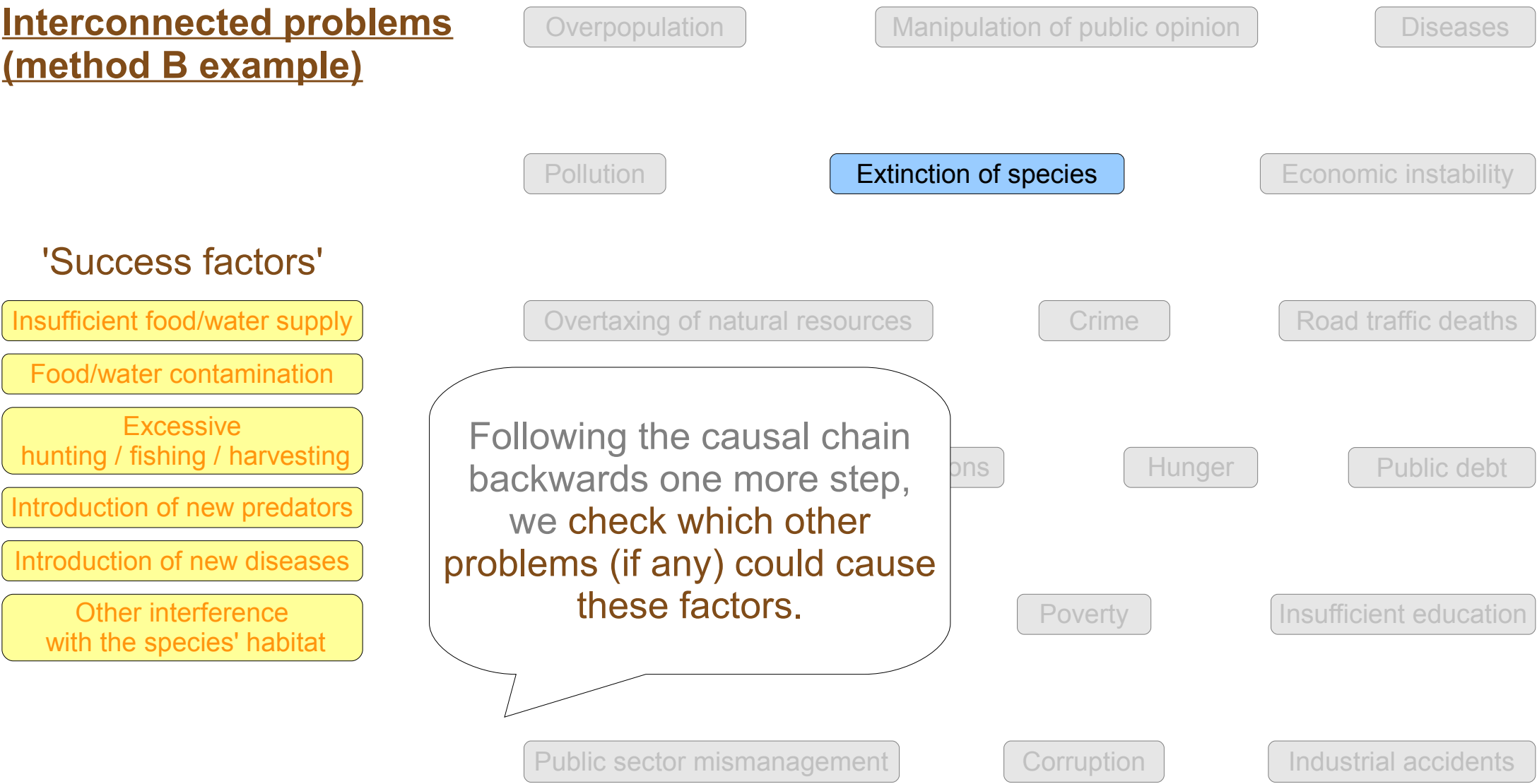


Fig. B.3c : interconnected problems (method B example)

Interconnected problems (method B example)

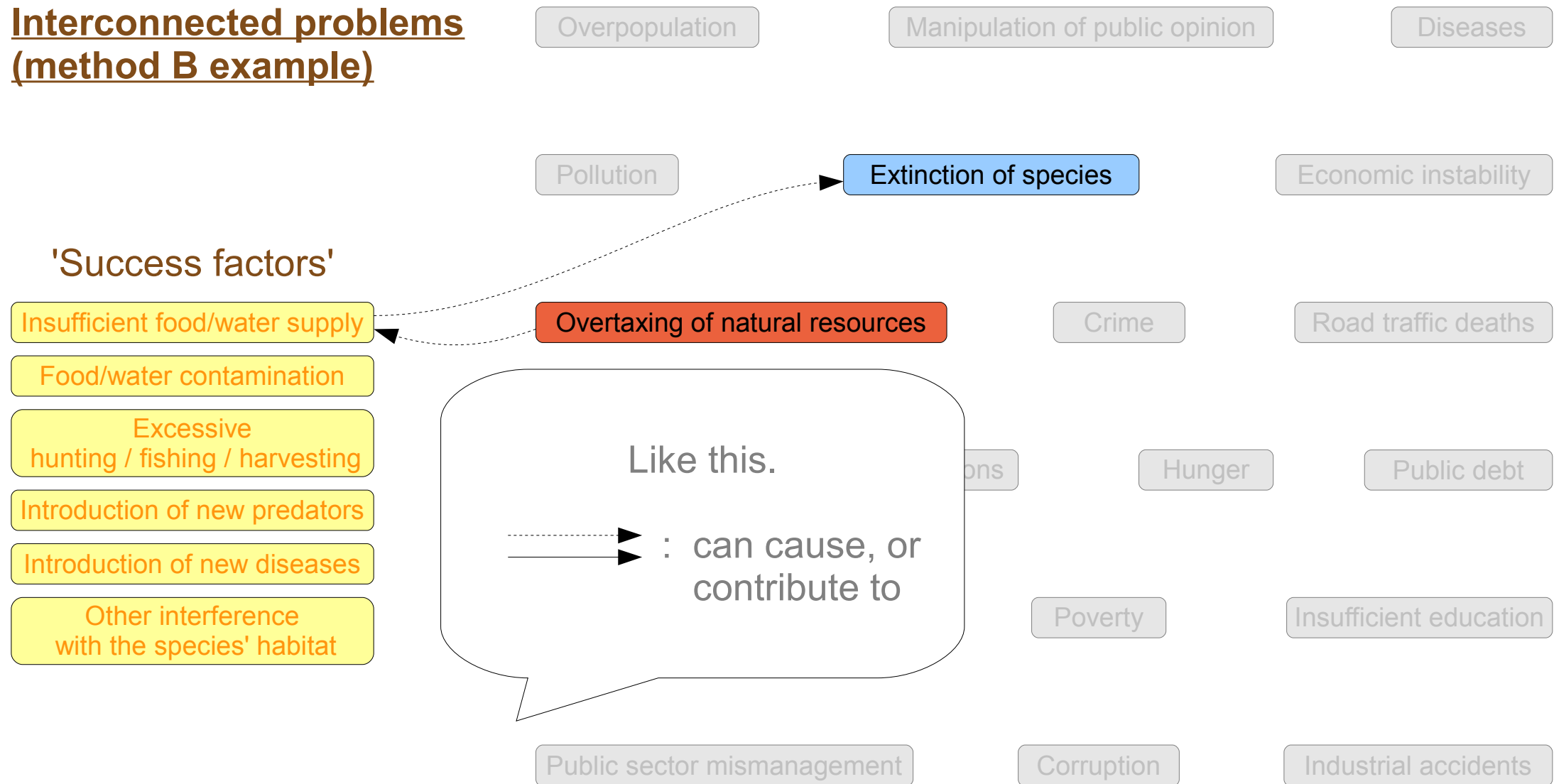


Fig. B.3d : interconnected problems (method B example)

Interconnected problems (method B example)

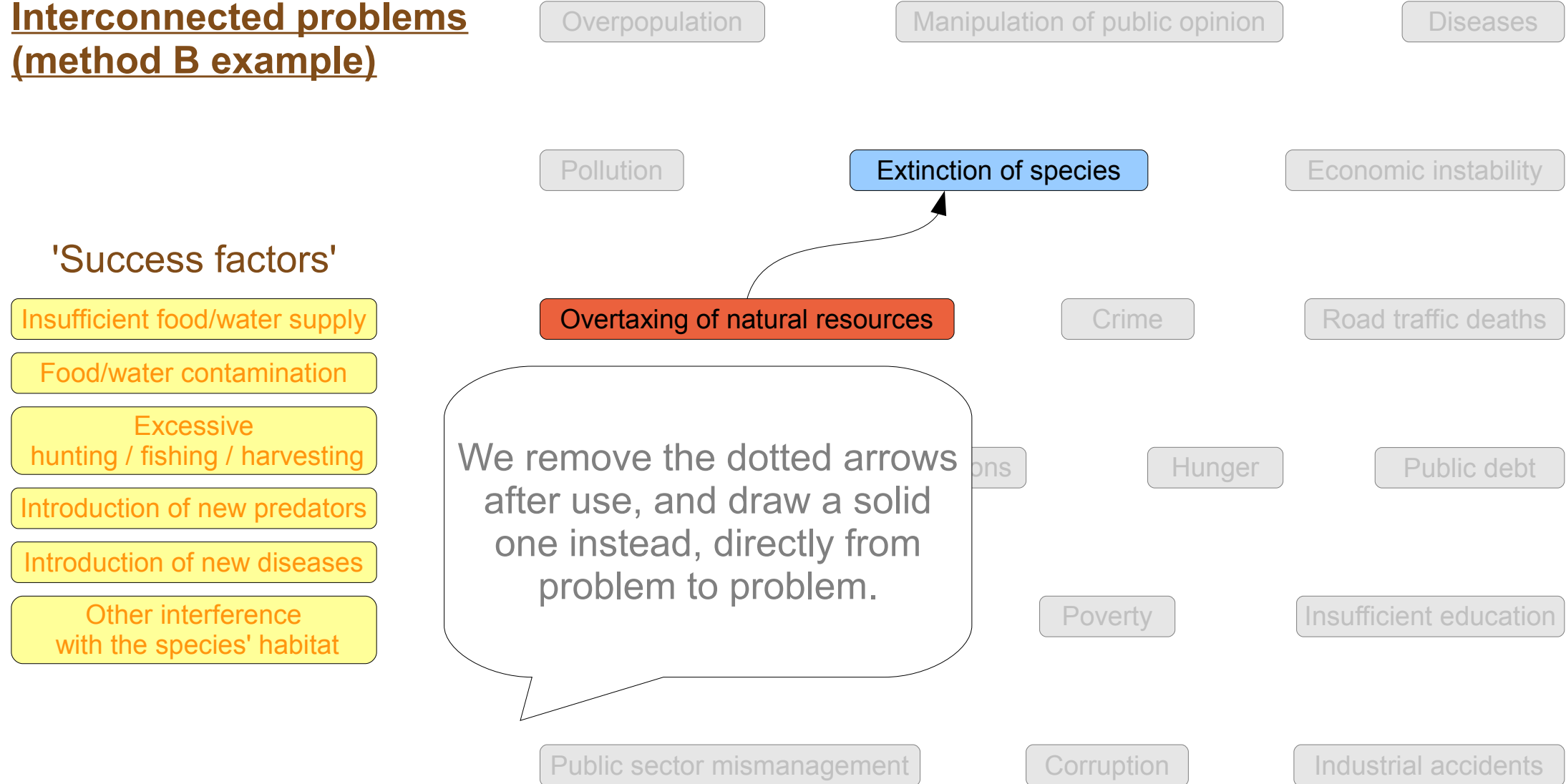


Fig. B.3e : interconnected problems (method B example)

Interconnected problems (method B example)

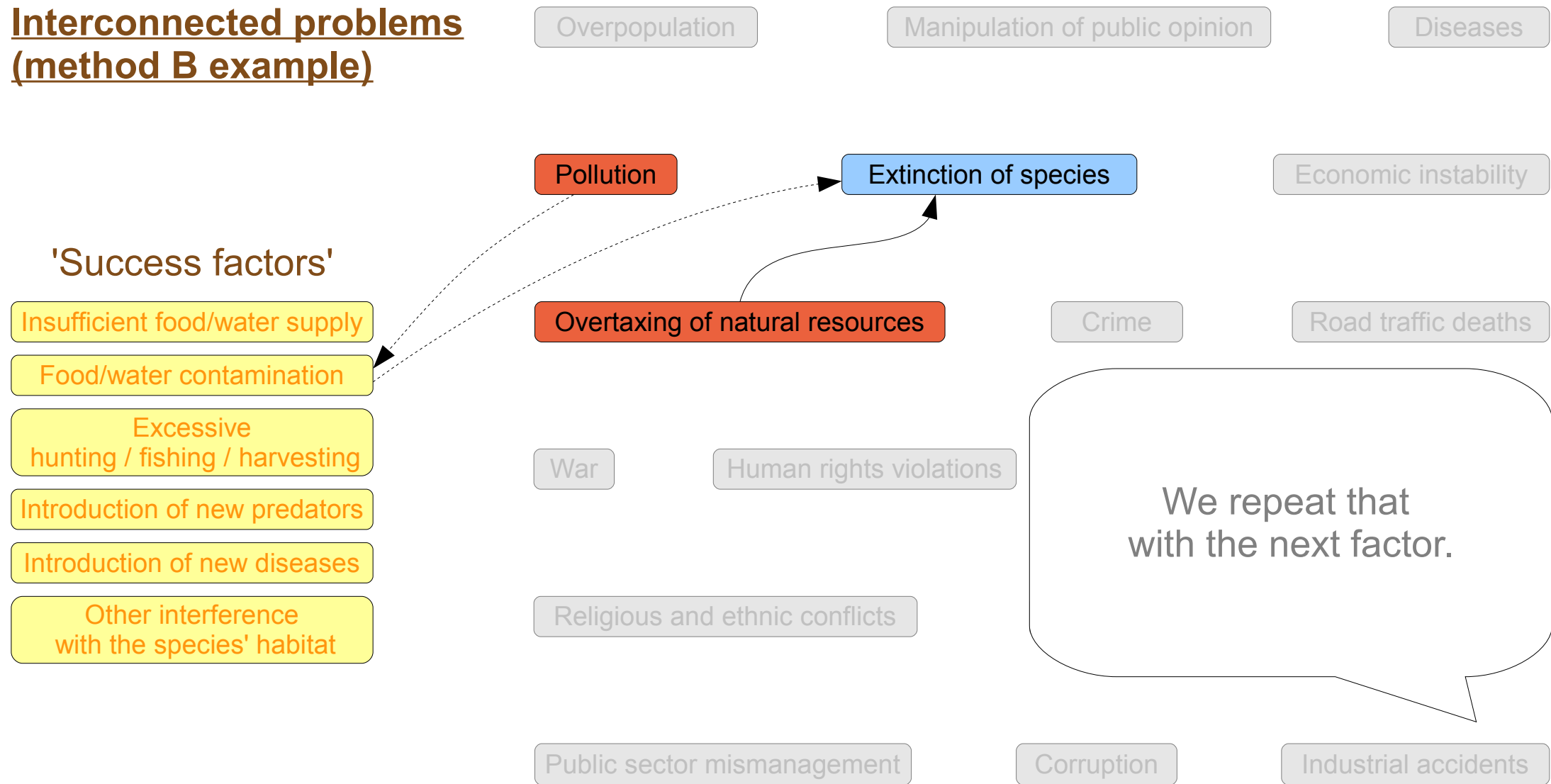


Fig. B.3f : interconnected problems (method B example)

Interconnected problems (method B example)

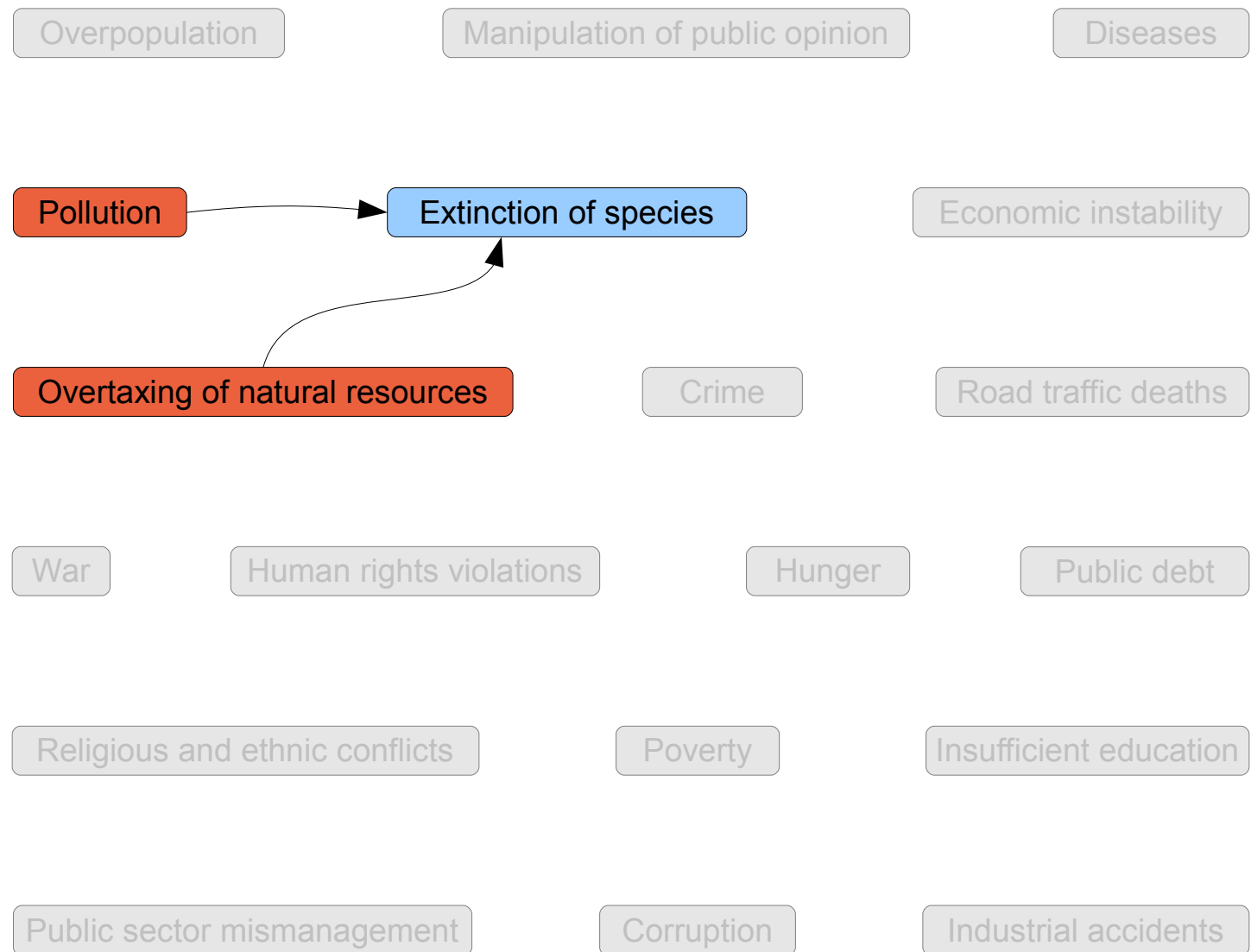


Fig. B.3g : interconnected problems (method B example)

Interconnected problems (method B example)

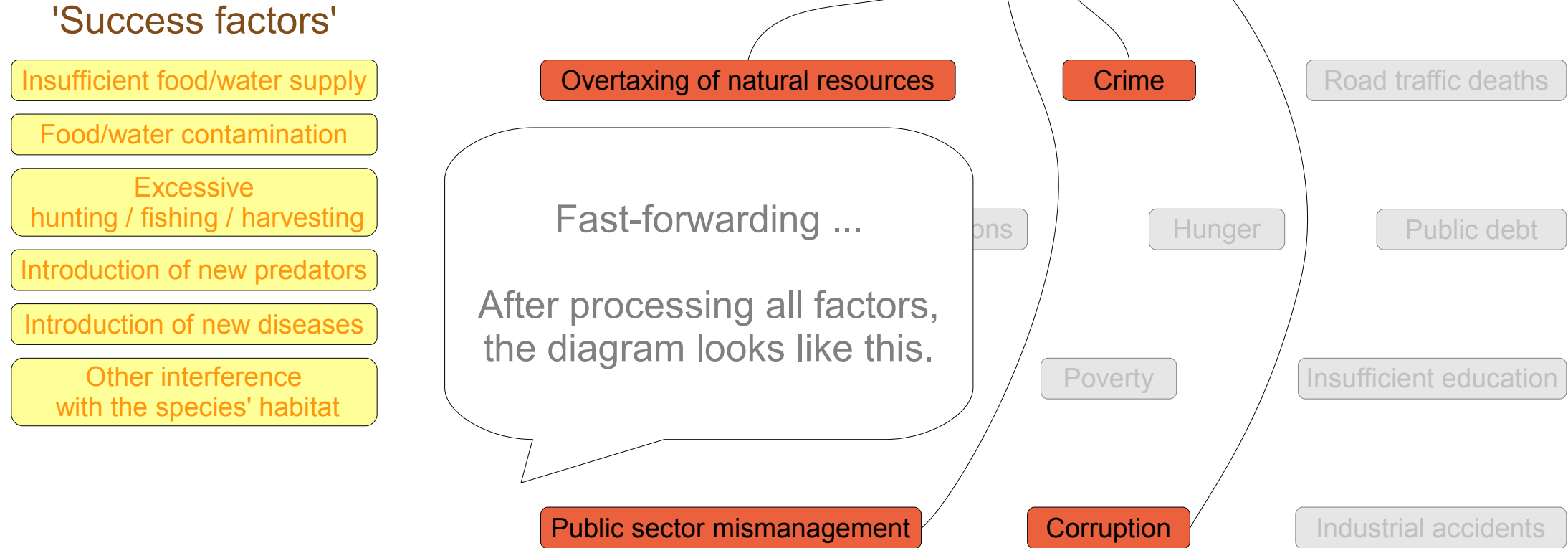


Fig. B.3h : interconnected problems (method B example)

Interconnected problems
(method B example)

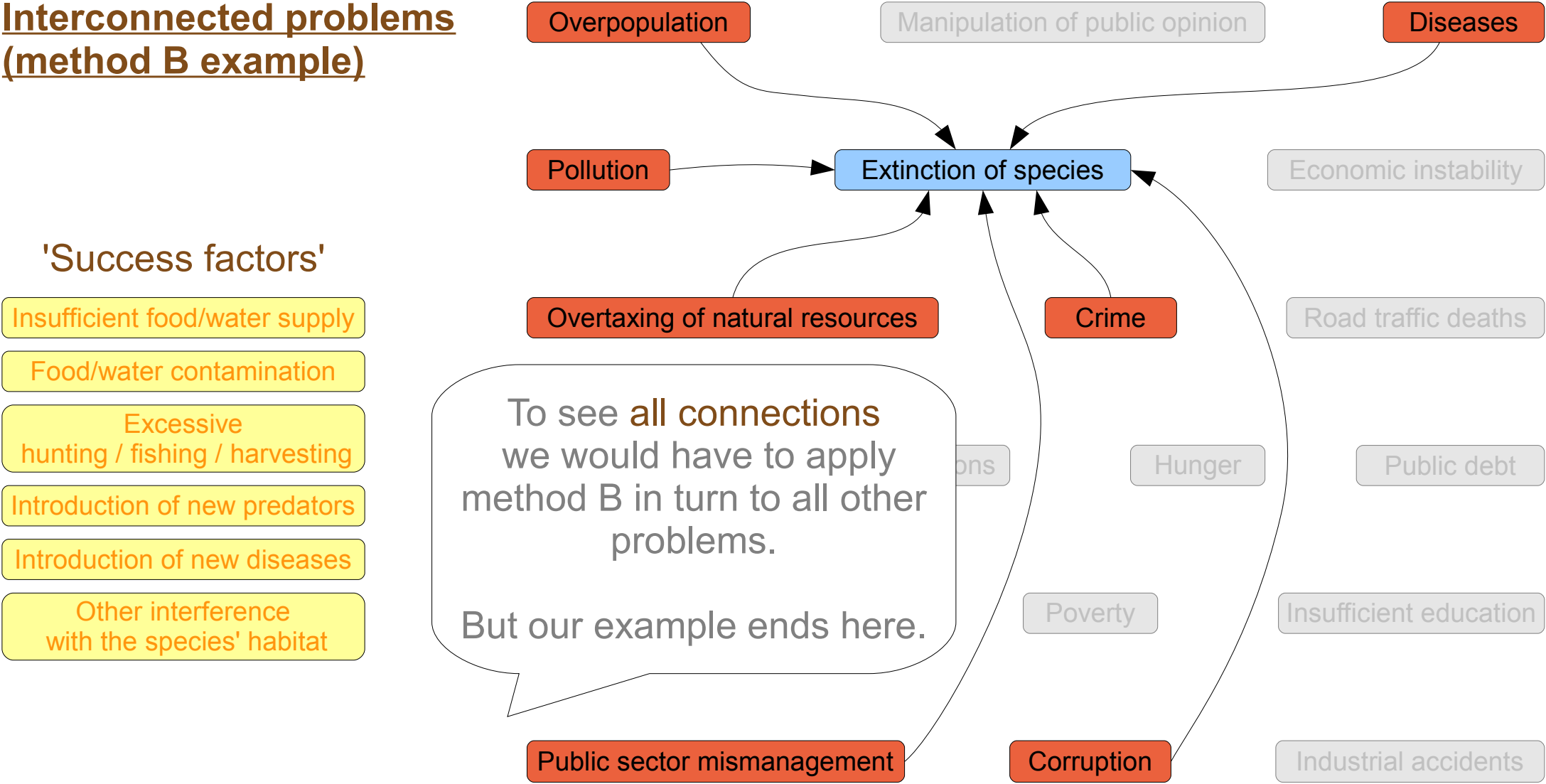


Fig. B.3i : interconnected problems (method B example)

Some connections are easier to spot with method B (as shown), some with method A.

One method can be used to **verify** results obtained with the other one.

If possible, a second person (or team) should do that.

Appendix B progress

Intro	done
Starting point	done
Method A: introduction / example	done
Method B: introduction / example	done
Appendix B conclusion	up next

Both methods can reveal which problems are **origins** of other problems, and which ones are rather their **symptoms**.

Once these **dependencies** are clear, you (as the problem solver) can spend your always limited resources where they give the best result.

As a general rule, this means:

1. Problems that pose an immediate **threat to survival** must be addressed first, even if the problem is only a symptom.
2. Next, **the origin problem(s) must be solved.**
3. **Only** if any resources are left after completing step 1 and 2, other symptom problems can be addressed.

Step 2 and 3 often require long-term thinking (in politics: beyond election periods).

Making bad decisions here can very easily lead to a negative circle or spiral, as described in chapter 4 (p. 45).

Regarding unwanted side effects of problem solving, see appendix C (next page).

Appendix C

Do not create larger problems while solving the original one

Where is the grass greener?

Certainly no one **wants** to create
larger problems
(at least not for oneself).

And that almost all problems
result from bad decision making
has already been stated before.

So what is this appendix about?

Many problems are
unintentionally created while
attempting to solve others.

**Therefore it seems worthwhile
to look more closely**, and from
a somewhat different angle,
at **how this can happen**.

(Following a proven strategy:
1. learn about possible
mistakes,
2. avoid them)

Appendix C progress

Intro done

Basic concepts up next

Unwanted consequences ...
 ... for you
 ... for others

Appendix C conclusion

Basic concept #1:

**By solving problems, we create
new situations.**

In general, problem solving
runs like this:

1. We look at a situation, notice a problem, and
2. try to create a new situation that no longer contains this problem.

During this process, we usually focus much more on solving the original problem than on avoiding new ones.

Basic concept #2:

**All situations have their
advantages and disadvantages.**

If a situation appears to have
only good or bad sides,
we probably haven't looked
hard enough.

Basic concept #3:

Advantages and disadvantages
are subjective perceptions.

Advantages and disadvantages
are often **confused with facts**.

Whenever you **consider** a fact as
good for you, you mentally apply
an 'advantage' tag to it. Which is
your **interpretation** of this fact.

But what is good or bad **depends**
on your viewpoint, time frame and
values (see chapter 3, p. 32).

So your personal advantage
could be someone else's
disadvantage, or even problem.

Or you might perceive a fact as
an advantage today, and as
an disadvantage in the future.

But for now, we lock our perspective to just one viewpoint, time frame and value system (yours, for instance).

Note also that we only discuss situations where you (not someone else) act as primary problem solver.

The next pages show a diagram series about these concepts.

Changing situations: basic concepts

old situation

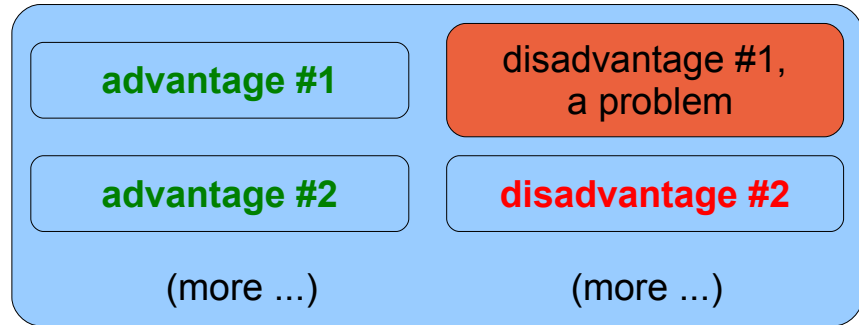


The old (or current) situation
has a number of
advantages and disadvantages.

Only 2 of each are drawn here.

Changing situations: basic concepts

old situation



Now one disadvantage becomes so serious that you consider it a problem.

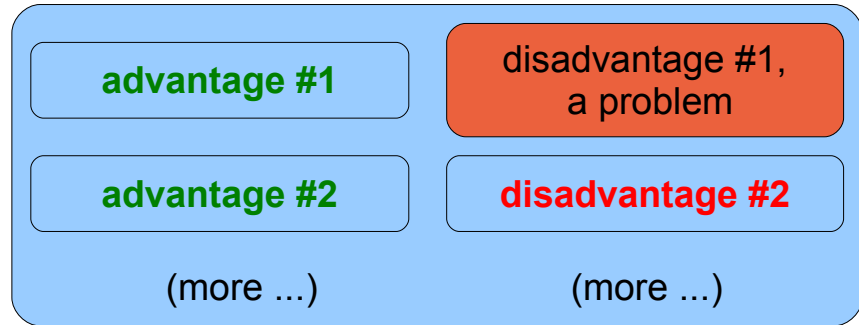
This means that you apply a more negative 'tag' to the underlying fact.

This can happen even if the fact itself has not changed at all.

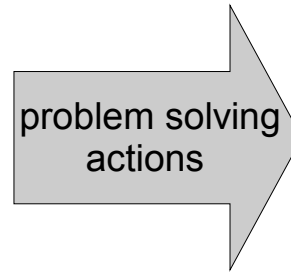
Fig. C.1b : changing situations

Changing situations: basic concepts

old situation



transition



Either way, the **perception** of a problem triggers your problem solving planning and actions.

Changing situations: basic concepts

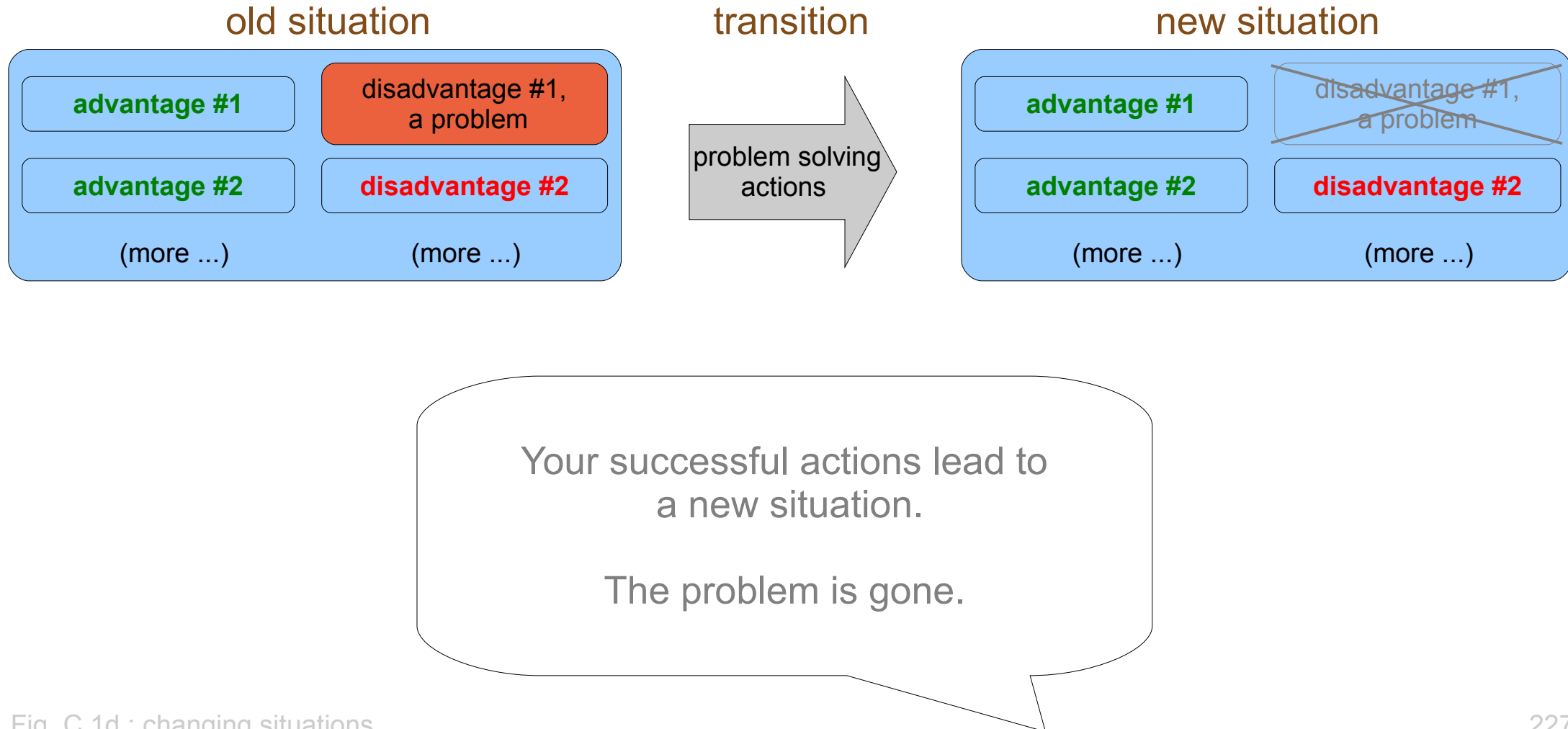
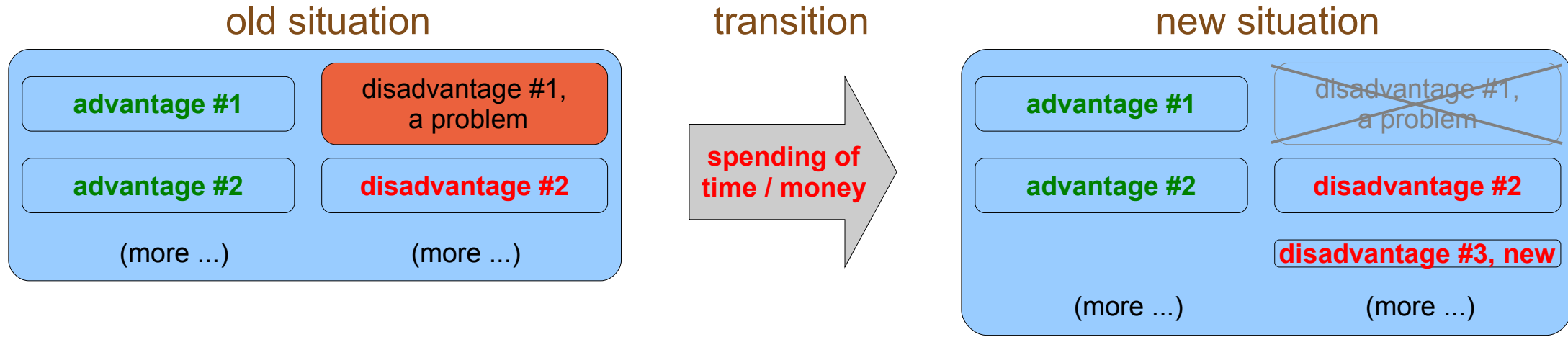


Fig. C.1d : changing situations

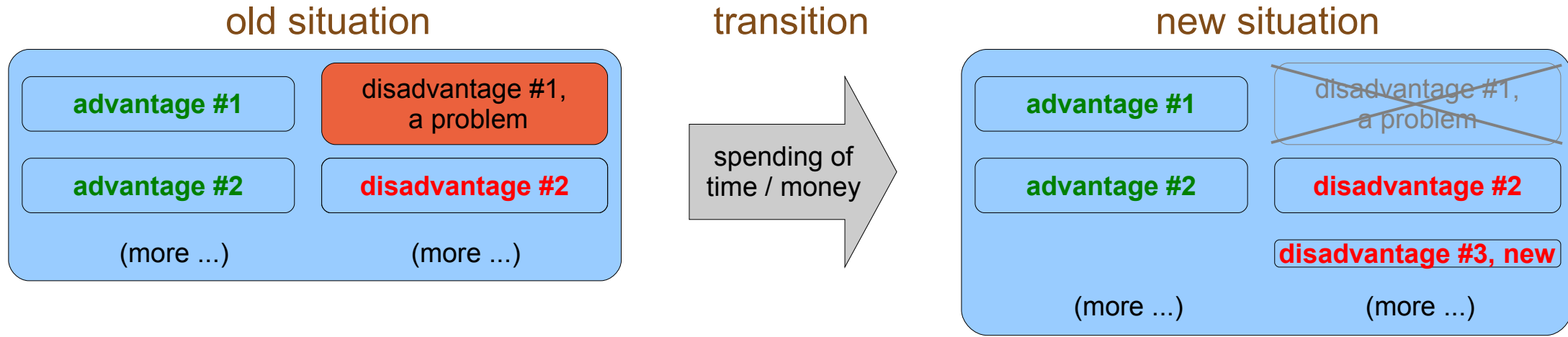
Changing situations: basic concepts



But let's not forget that you spent time and/or money to get there.

Spent resources are no longer available for other purposes, and that is a new disadvantage.

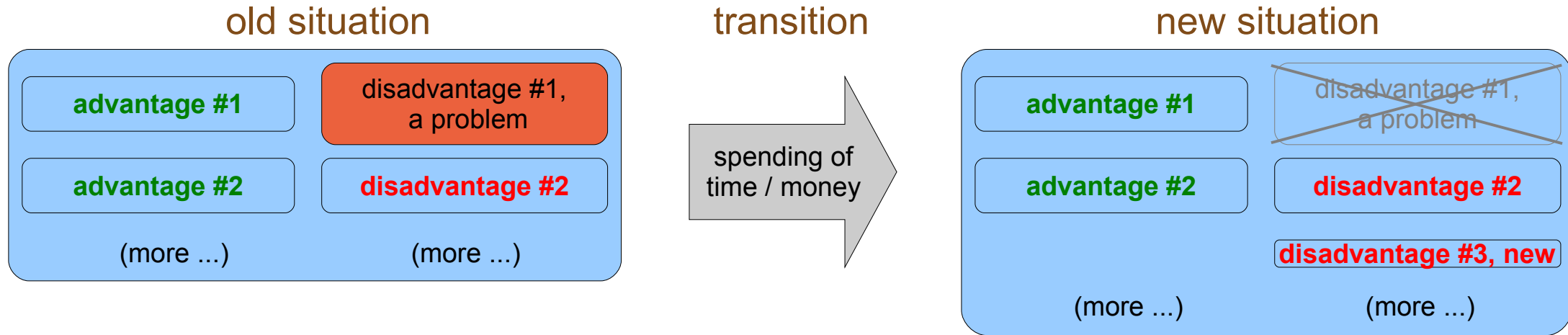
Changing situations: basic concepts



In this case however, the new disadvantage is small compared to the eliminated problem, and no other disadvantages were introduced.

Perfect.

Changing situations: basic concepts



Perfect problem solving in a nutshell:

The problem is solved
without side effects other than
spending a minimum of resources.

There are only two scenarios where perfect solutions are common:

1. The problem affects only **one person**, and can be solved **within minutes**

Example: Alice's feet feel cold. She owns warm socks and puts them on.

2. The problem can be **solved by restoring a previous situation** without much effort

Example: a building loses electrical power after overloading the main fuse. Some devices are turned off and the fuse is reset.

You will hardly ever see more complex problems solved without (unwanted) side effects.

Appendix C progress

Intro done

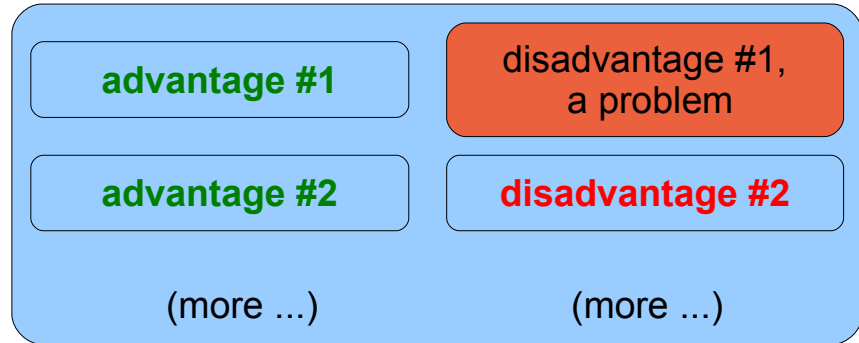
Basic concepts done

Unwanted consequences ...
 ... for you up next
 ... for others

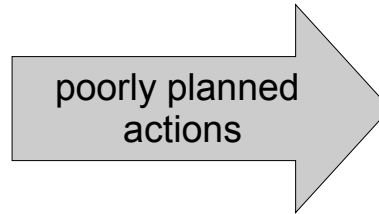
Appendix C conclusion

Poor planning

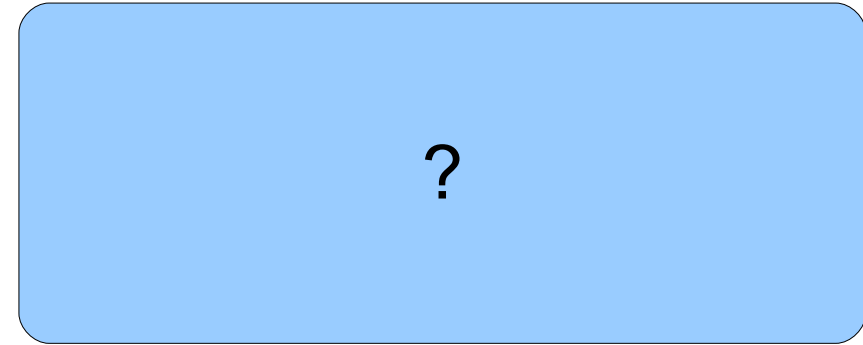
old situation



transition



created situation



Poor planning

If you start your problem solving attempt without thinking ahead, you lack a defined target situation.

The situation you create will very probably contain some surprises.

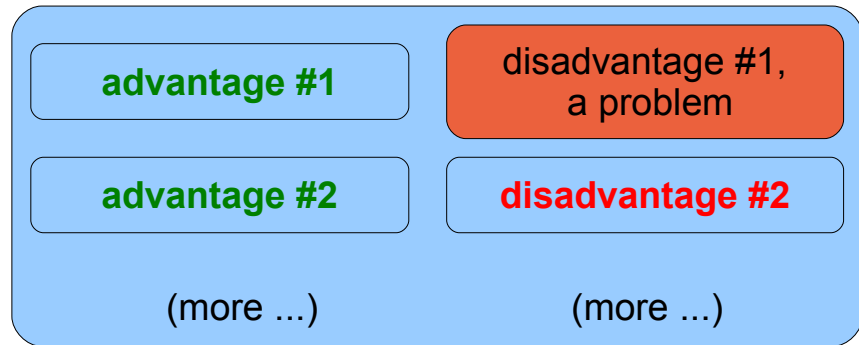
One could be that the original problem is still unsolved.

Or perhaps the new situation is otherwise worse than the old one.

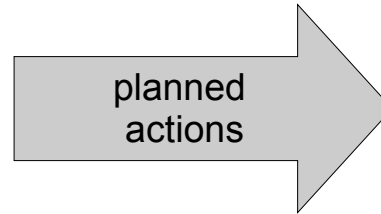
Fig. C.2 : poor planning

Poor execution

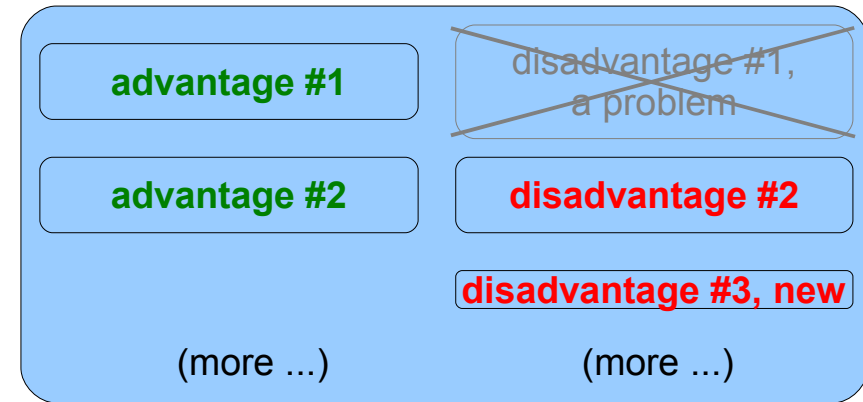
old situation



transition



target situation



Poor execution

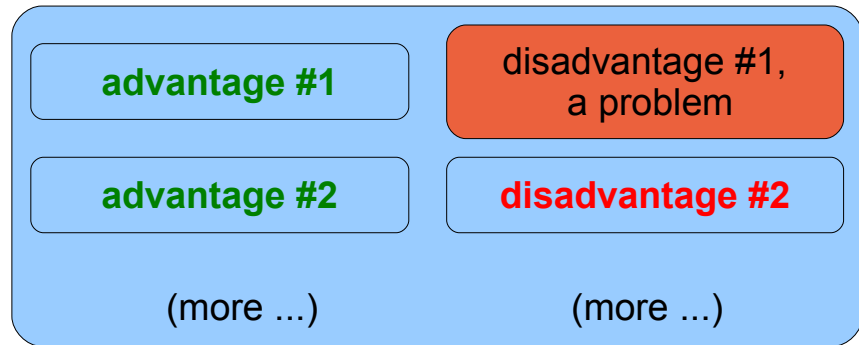
Let's say you have a good plan,
and a well-defined target
situation you want to arrive at.

But ...

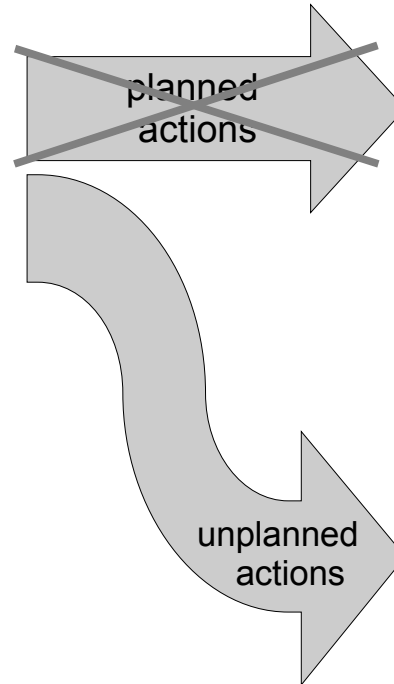
Fig. C.3a : poor execution

Poor execution

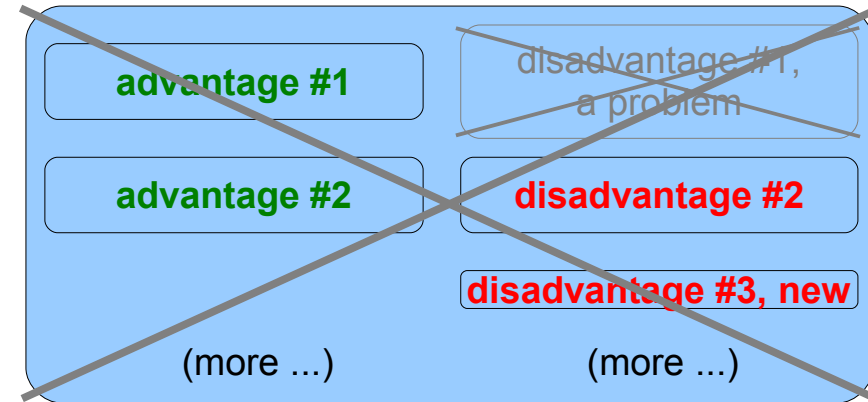
old situation



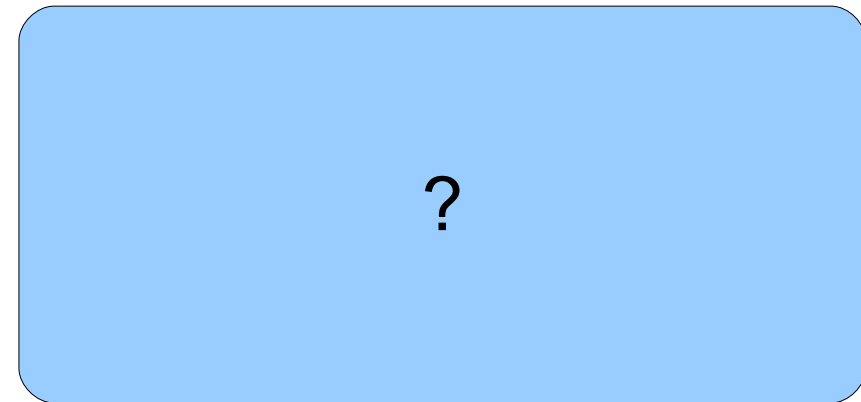
transition



target situation (not reached)



created situation



But if your actions deviate from your plan, you will probably create an unintended/unforeseen situation instead.

Which again could be worse than the old situation.

Fig. C.3b : poor execution

The following pages show more unwanted consequences.

These are **much more likely to occur** if your planning or execution was poor in general.

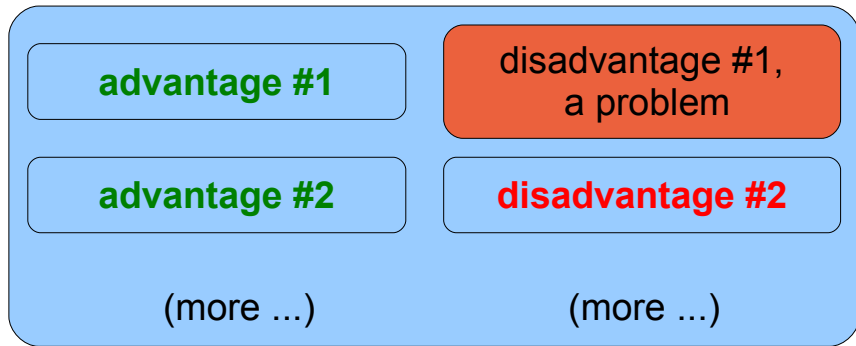
You can prevent this by using project management and decision making methods.

Awareness, good communication and common sense always help, and may suffice in simple everyday situations.

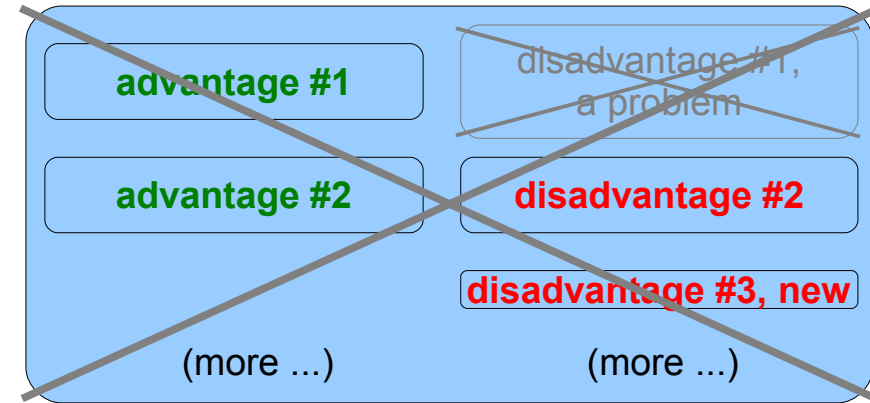
If you don't want to see more diagrams, or you want to save 5 minutes reading time, you can proceed directly to p. 250 for a single page overview.

Unexpected loss of advantage

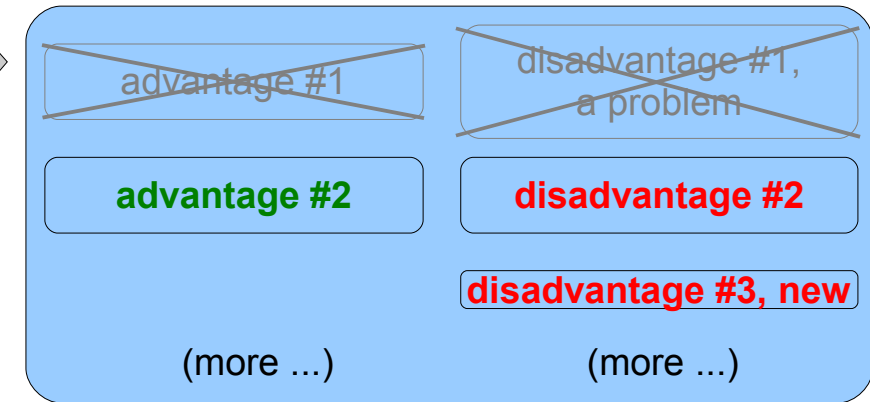
old situation



target situation (not reached)



created situation



problem
solving
actions

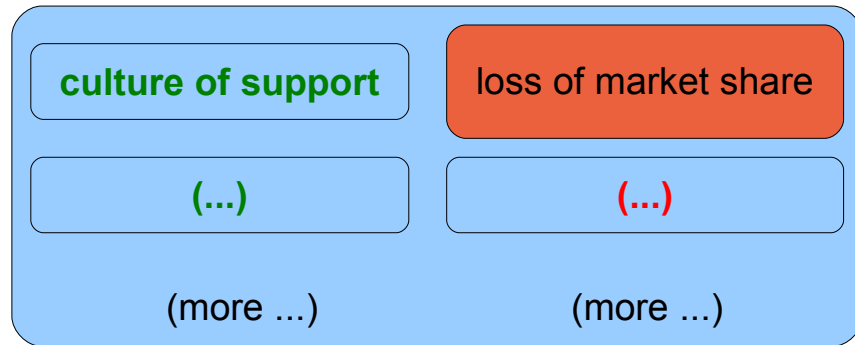
Unexpected loss of advantage

An advantage was unintentionally eliminated along with the problem.

Fig. C.4a : lost advantage

Unexpected loss of advantage

old situation

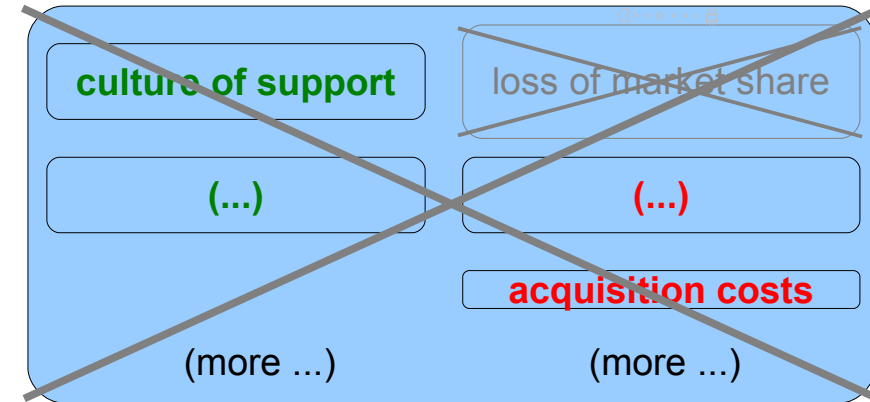


Example:

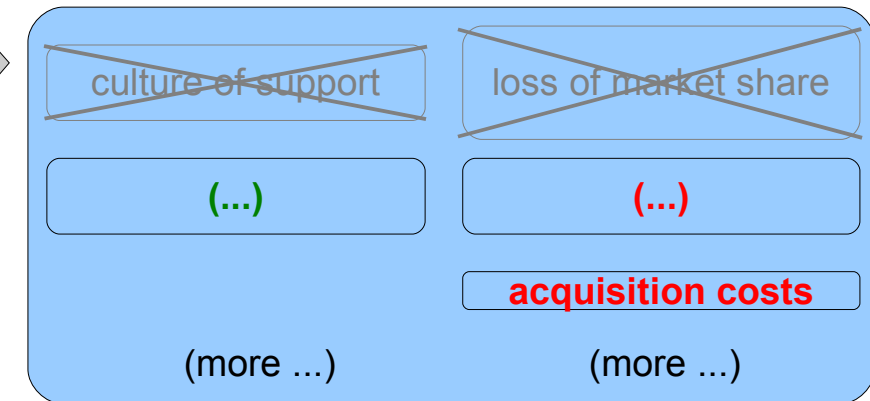
A large company loses market share to a small company. The large company buys the small one. The previous culture of mutual support between employees disappears during the reorganization.

acquisition
of competitor

target situation (not reached)

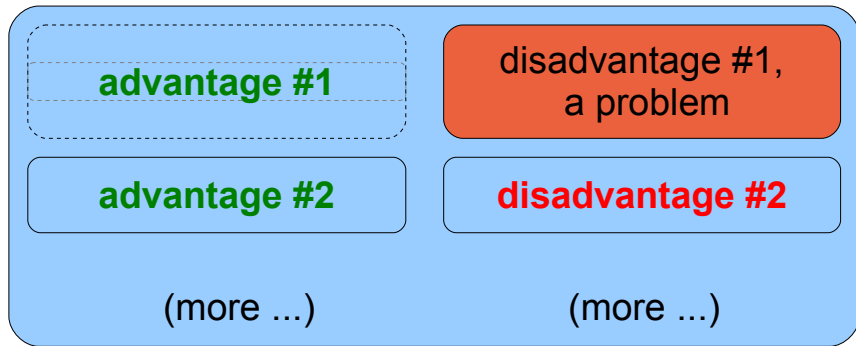


created situation

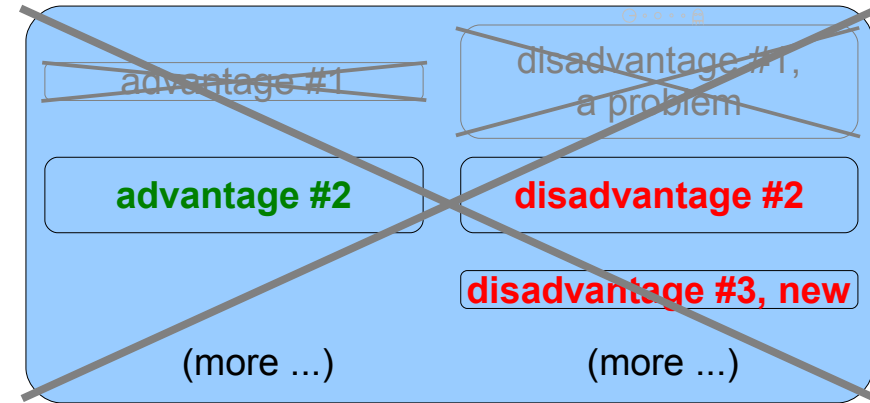


Underestimated value of sacrificed advantage

old situation



target situation (not reached)



Underestimated value of sacrificed advantage

An advantage was intentionally sacrificed (to solve the problem), but its value was higher than thought. Hindsight.

problem
solving
actions

created situation

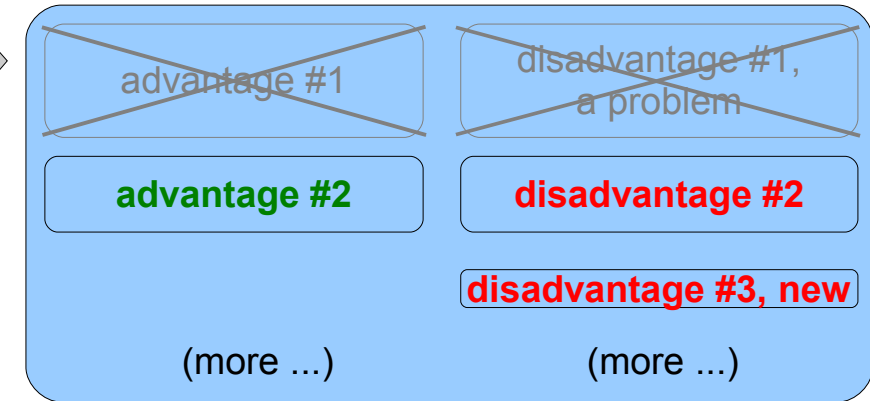
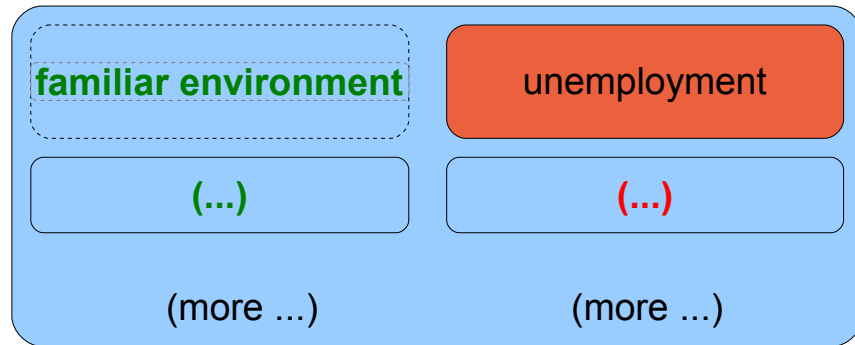


Fig. C.5a : sacrificed advantage

Underestimated value of sacrificed advantage

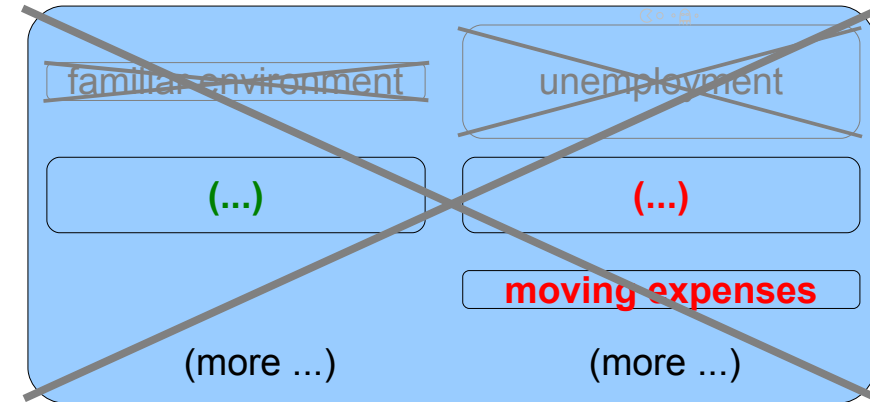
old situation



Example:

Bob is unemployed and can't find work near his home. He moves to a far away city where he finds a job. Then Bob realizes that his familiar environment meant much more to him than he was aware of.

target situation (not reached)



created situation

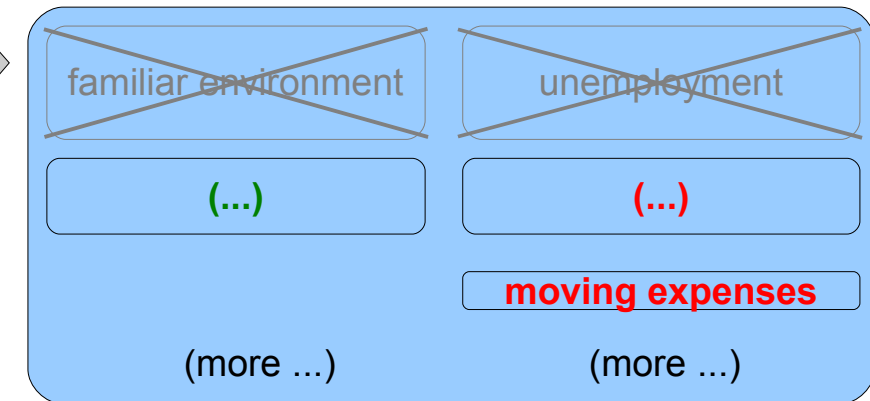
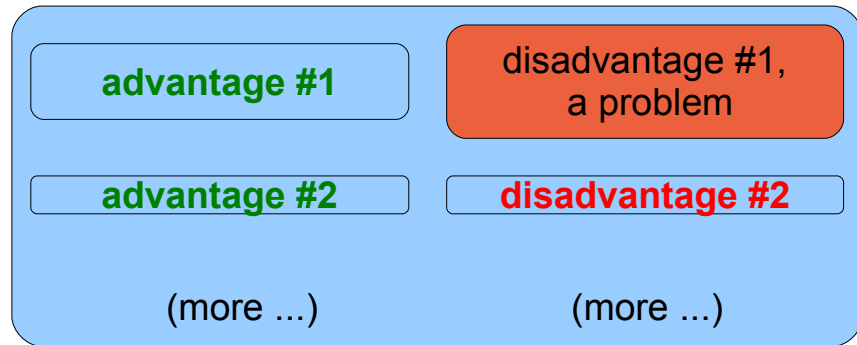


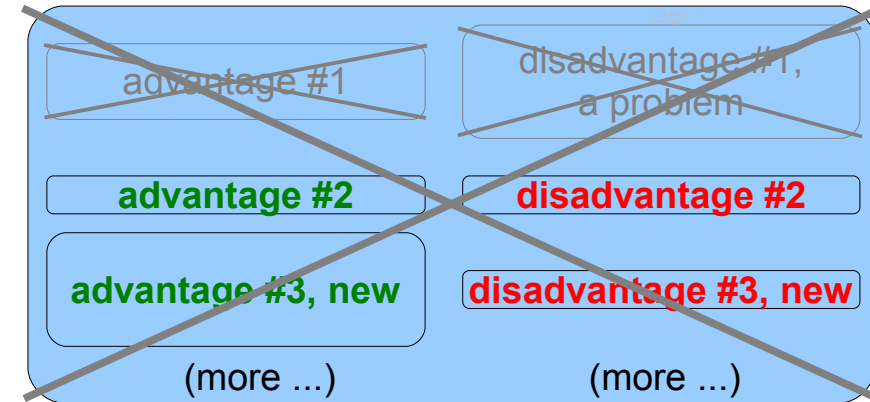
Fig. C.5b : sacrificed advantage

Overestimated value of new advantage

old situation

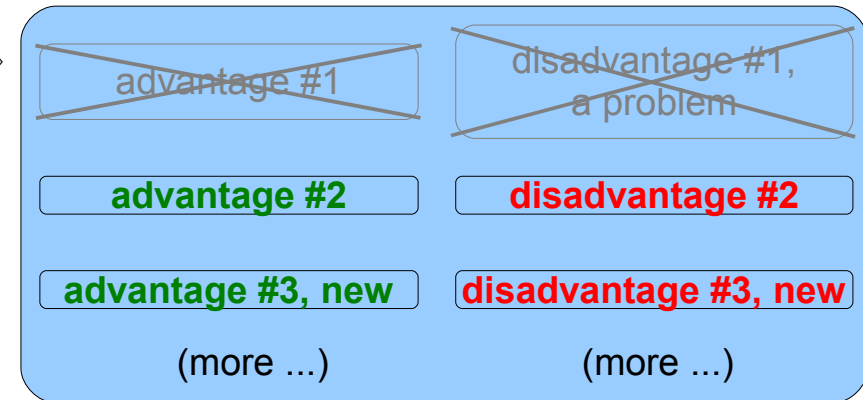


target situation (not reached)



problem
solving
actions

created situation



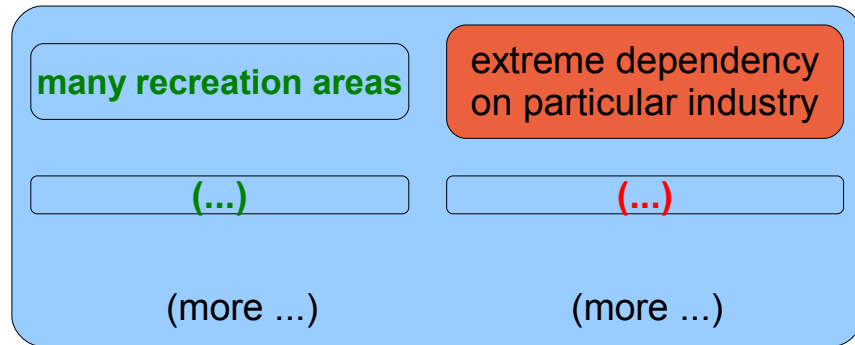
Overestimated value of new
advantage

A planned advantage was
created, but it is smaller than
expected.

Fig. C.6a : overestimated advantage

Overestimated value of new advantage

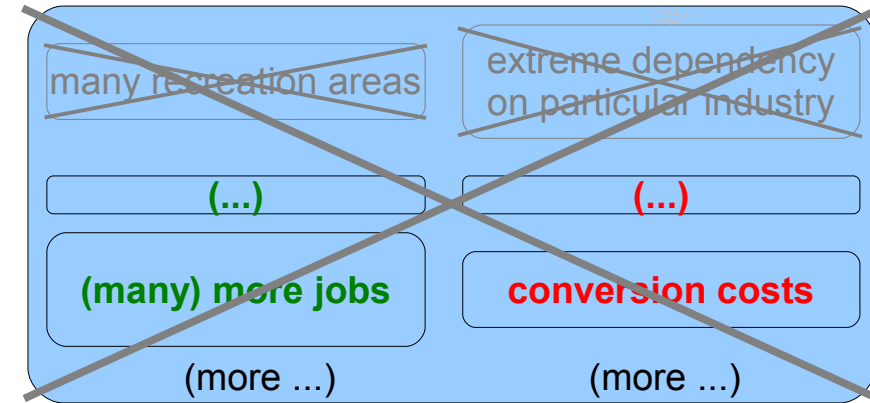
old situation



Example:

A mining town wants to become less dependent on the mining industry. Some recreation areas are converted into commercial areas and sold to other businesses. New jobs are created, but far fewer than planned.

target situation (not reached)



created situation

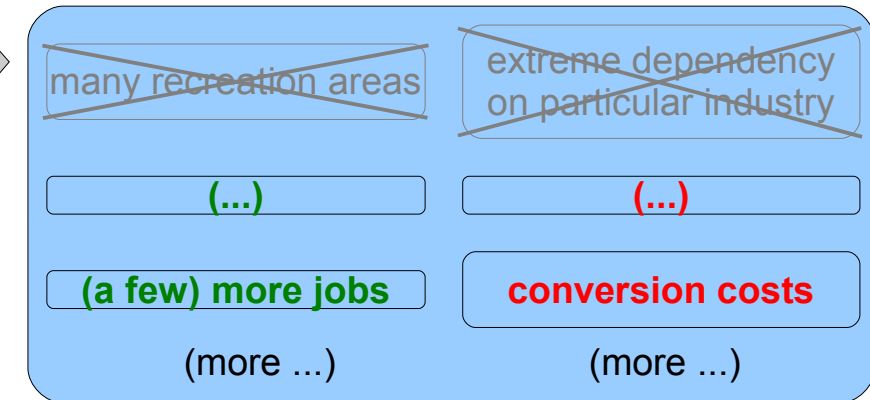
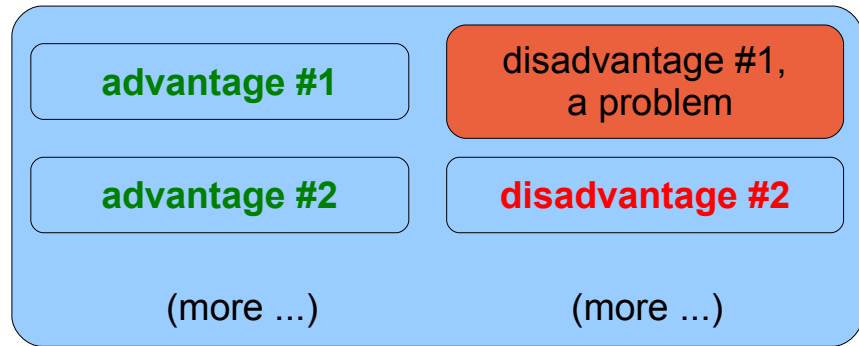


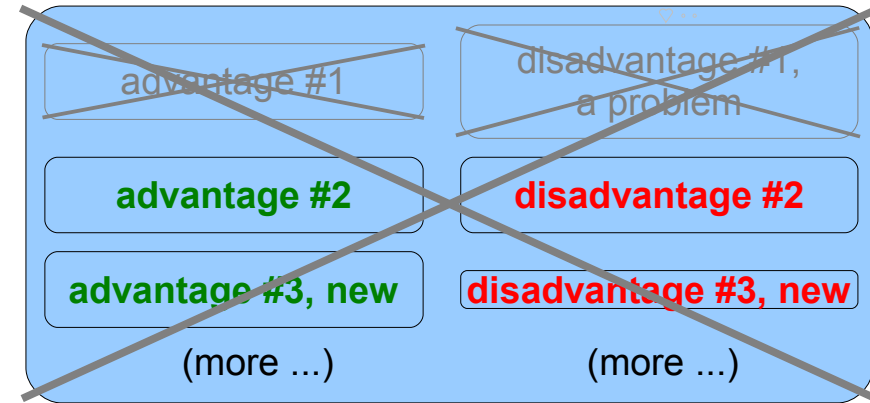
Fig. C.6b : overestimated advantage

Failed creation of new advantage

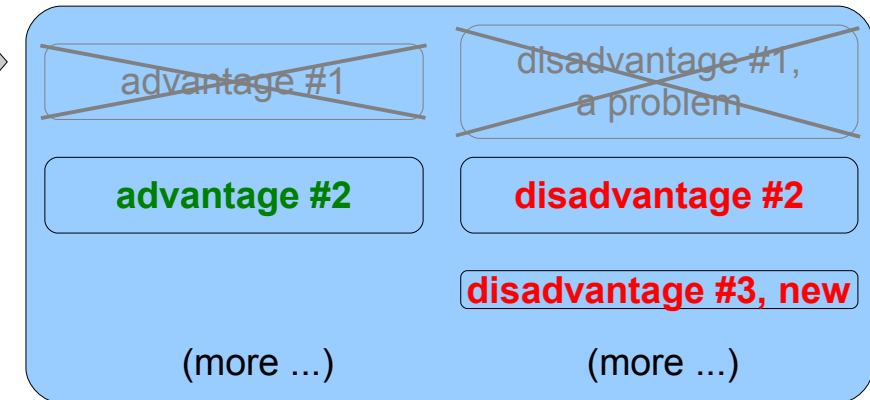
old situation



target situation (not reached)



created situation



Failed creation of new advantage

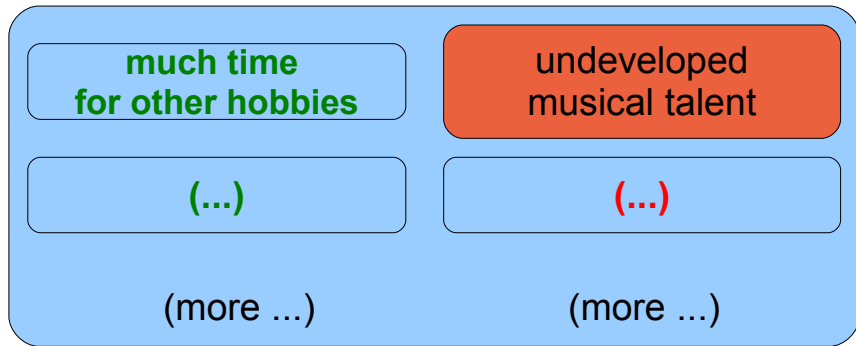
A planned advantage
failed to appear.

problem
solving
actions

Fig. C.7a : advantage not created

Failed creation of new advantage

old situation

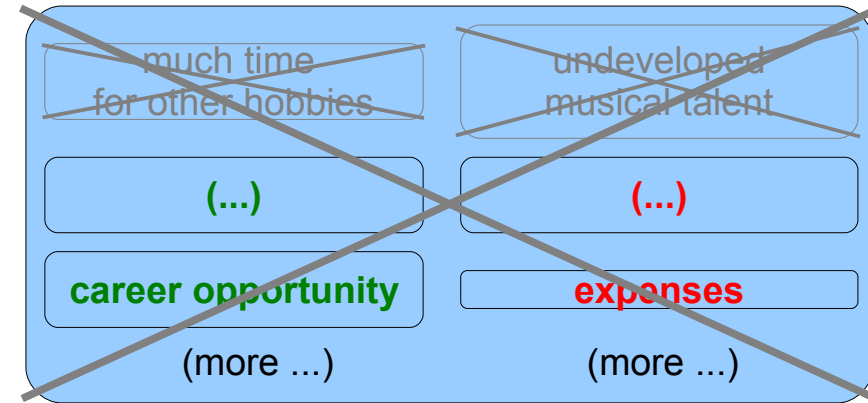


Example:

Alice has musical talent, but for a long time had no opportunity to learn an instrument. Now she takes lessons and has reached one of her goals in life.

Alice also hoped to become a professional musician, but that doesn't come true.

target situation (not reached)



created situation

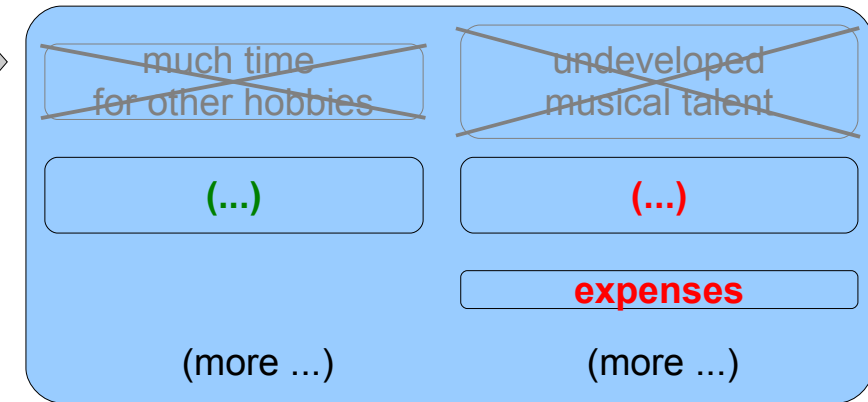
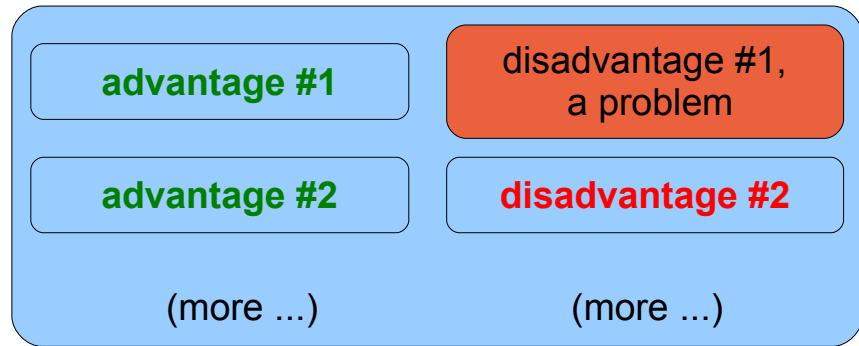


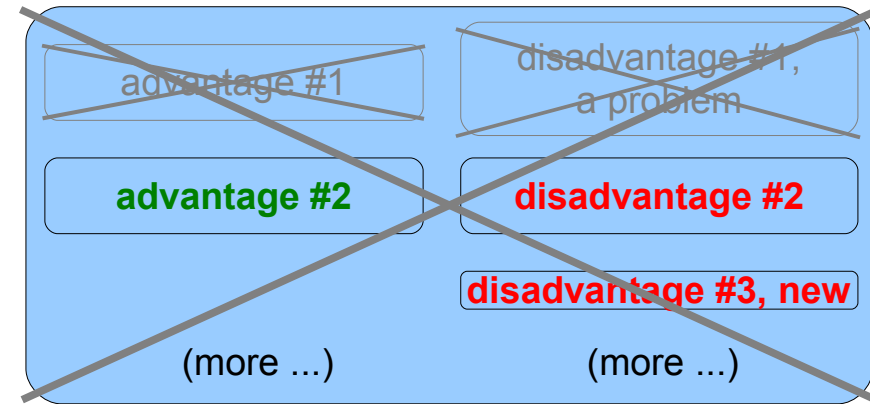
Fig. C.7b : advantage not created

Unexpected new disadvantage

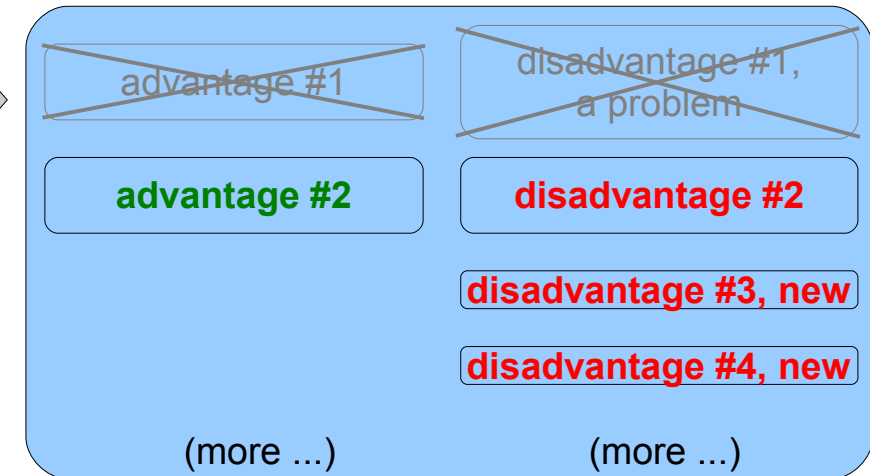
old situation



target situation (not reached)



created situation



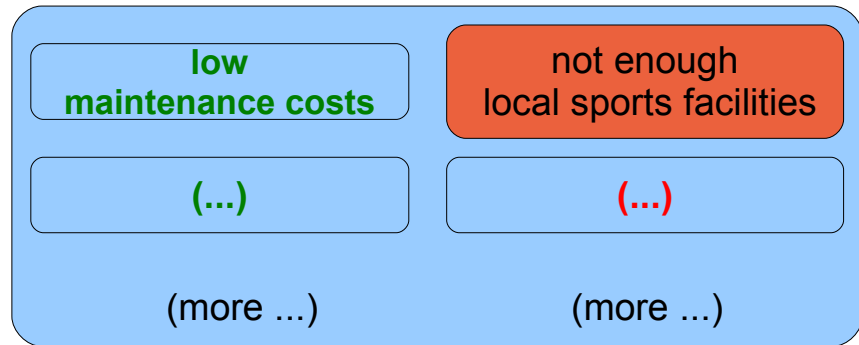
Unexpected new disadvantage

A new and unplanned disadvantage appears in the created situation.

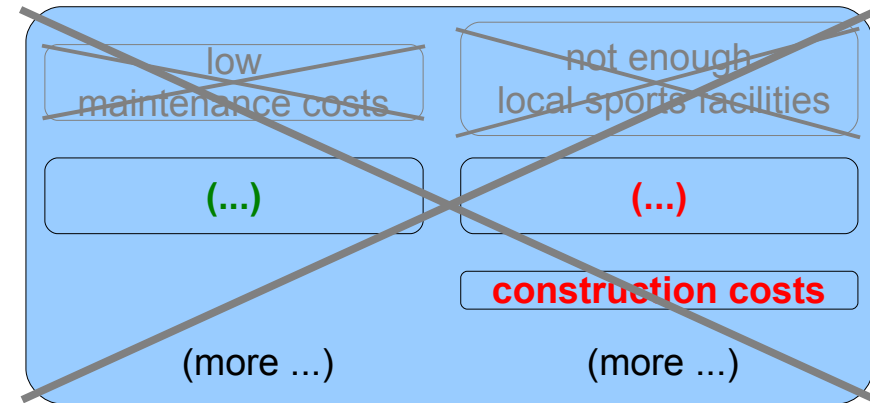
Fig. C.8a : new disadvantage

Unexpected new disadvantage

old situation



target situation (not reached)



Example: a city does not have enough easy to reach sports facilities. The city builds new facilities in residential areas, and budgets for their maintenance. Afterwards, the planners are surprised by a high number of neighbours complaining about noise from the new facilities.

facility construction

created situation

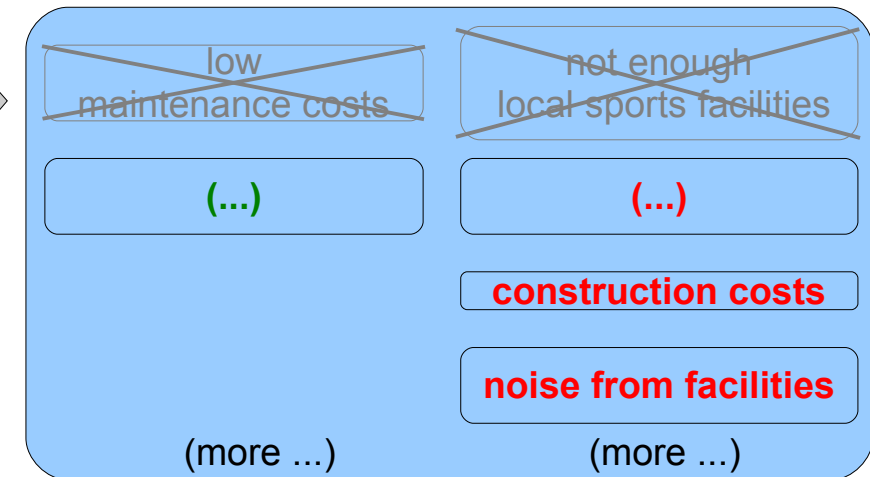
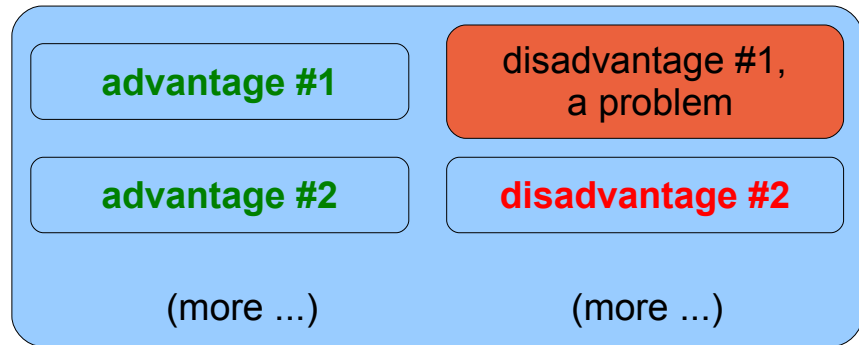


Fig. C.8b : new disadvantage

Underestimated impact of new disadvantage

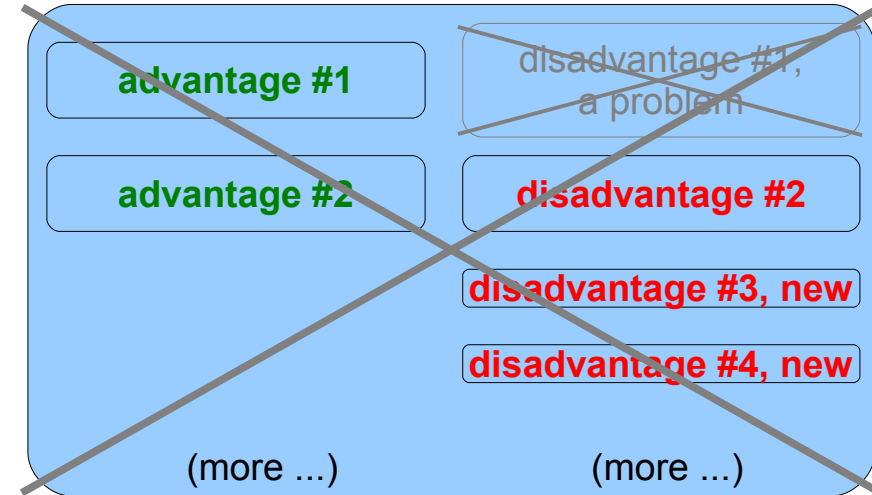
old situation



Underestimated impact of new disadvantage

A new disadvantage was expected, but it is more serious than imagined. So serious that it qualifies as a new problem.

target situation (not reached)



created situation

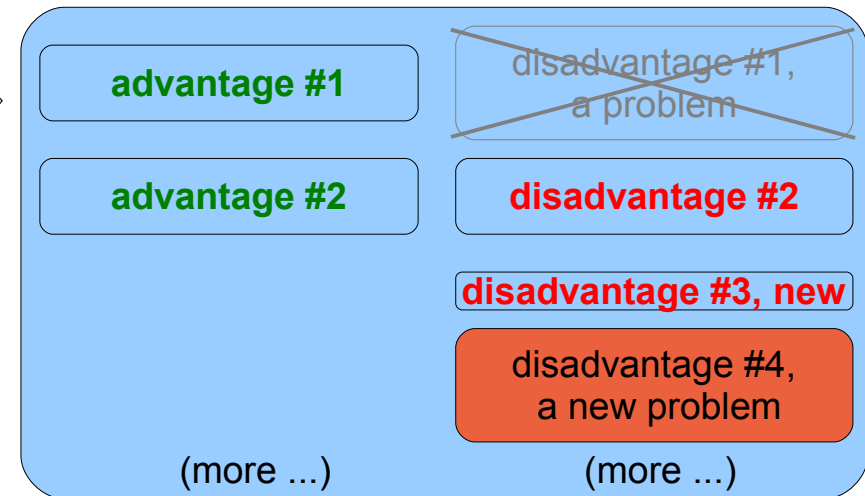
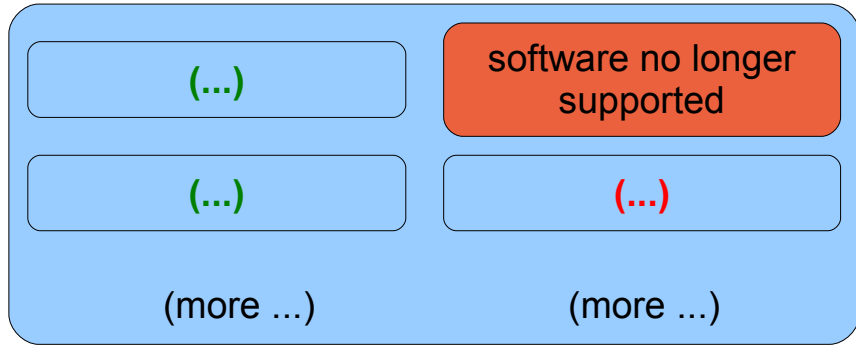


Fig. C.9a : underestimated disadvantage

Underestimated impact of new disadvantage

old situation

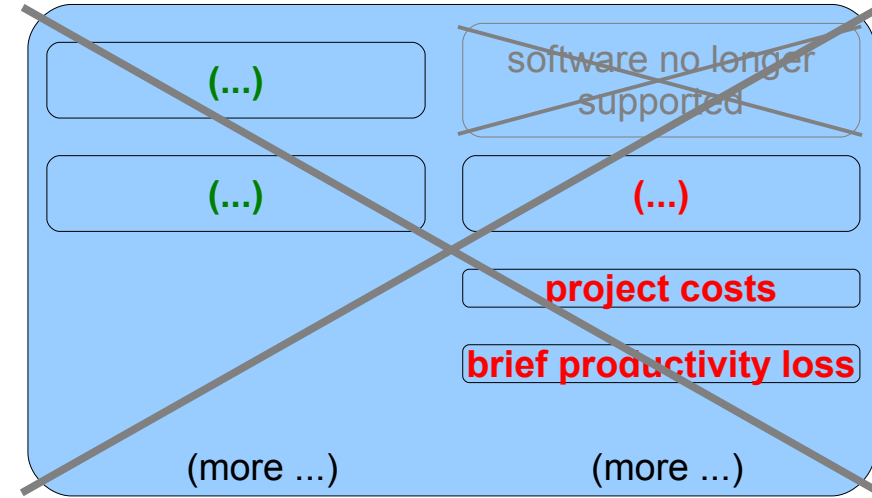


Example:

A company used software that now is no longer supported. The software is replaced by a new product. Adapting the new software to the company's needs is never accomplished to its satisfaction, causing long-term productivity loss.

transition to
new product

target situation (not reached)



created situation

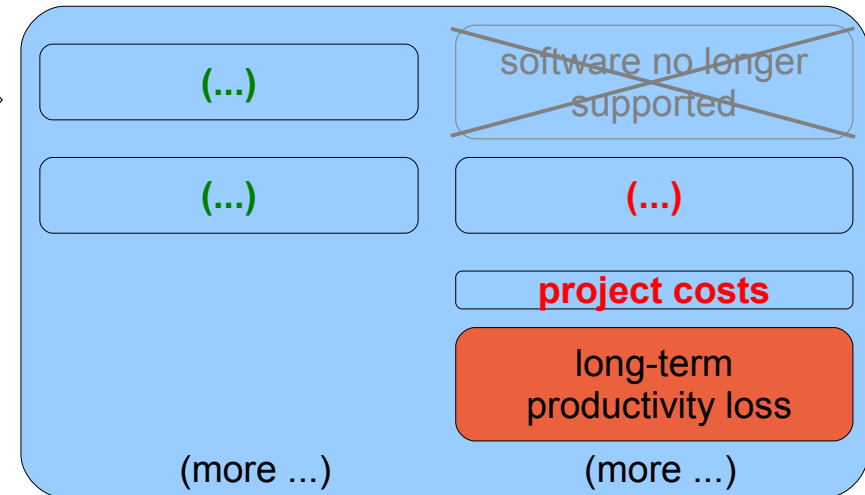
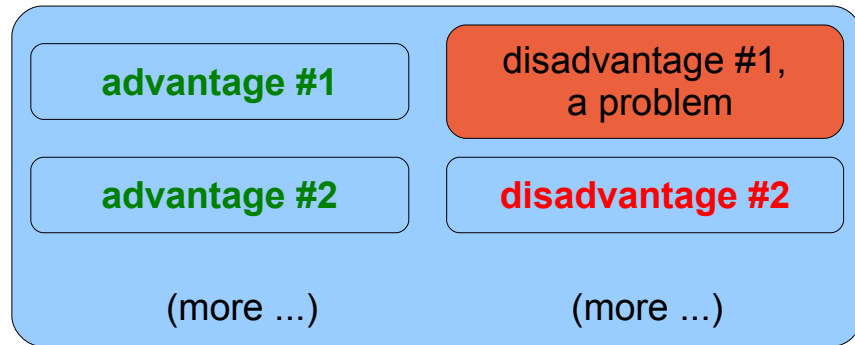


Fig. C.9b : underestimated disadvantage

Excessive use of resources

old situation



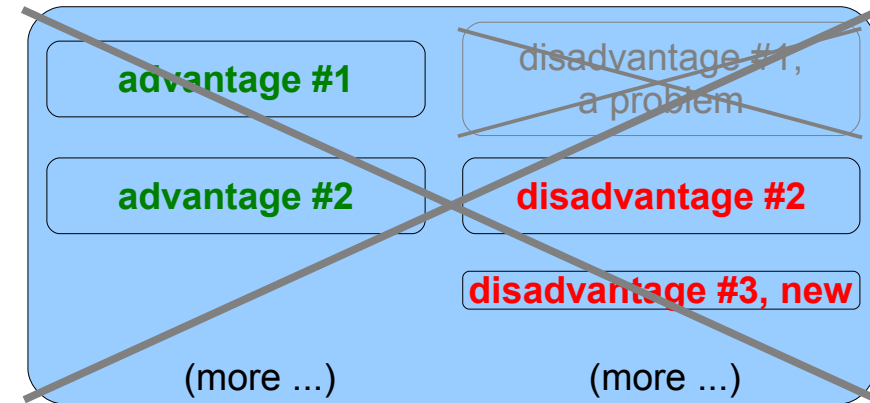
Excessive use of resources

The created situation is as planned, except that the resources spent to get there are out of proportion.

This is a new problem because spent resources are no longer available for other purposes.

problem
solving
actions

target situation (not reached)



created situation

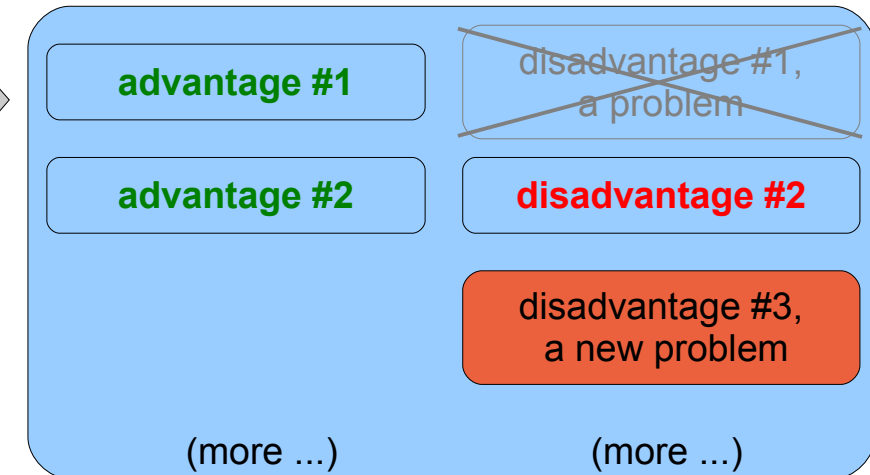


Fig. C.10 : wasted resources

... same text (without the examples), but on a single page.

Overview

Unwanted consequences of poor problem solving

1. **Unexpected loss of advantage**
An advantage was unintentionally eliminated along with the problem.
2. **Underestimated value of sacrificed advantage**
An advantage was intentionally sacrificed (to solve the problem), but its value was higher than thought. Hindsight.
3. **Overestimated value of new advantage**
A planned advantage was created, but it is smaller than expected.
4. **Failed creation of new advantage**
A planned advantage failed to appear.
5. **Unexpected new disadvantage**
A new and unplanned disadvantage appears in the created situation.
6. **Underestimated impact of new disadvantage**
A new disadvantage was expected, but it is more serious than imagined. So serious that it qualifies as a new problem.
7. **Excessive use of resources**
The created situation is as planned, except that the resources spent to get there are out of proportion. This is a new problem because spent resources are no longer available for other purposes.

We just looked at 7 different ways things can go wrong **while still actually solving the original problem.**

Obviously the problem solving attempt itself also can fail.

In addition, **all of the above can occur in any combination.**

And finally, even if the problem solving was planned and executed perfectly:

The created improved situation may not last long, either

- because it is **unstable** by its nature, or
- because you 'play' against **opponents** who will soon react with their countermoves

Does that sound more discouraging than justified by your own experience?

The text on the right explains why this could result from a perception bias.

It is common that the acting party takes **credit** for solving the original problem. That the acting party also takes **responsibility** for unwanted side effects does not happen often.

This can give the audience (and maybe the acting party, too) **the wrong impression that new problems come from 'nowhere'** while the solutions come from the acting party.

Appendix C progress

Intro done

Basic concepts done

Unwanted consequences ...

... for you done

... for others up next

Appendix C conclusion

Do you remember
'Basic concept #3: Advantages
and disadvantages are subjective
perceptions' (p. 222)?

Unless you make a conscious
effort otherwise, all your
considerations are based on **your**
personal viewpoint, time frame
and value system.

However, you are not alone
on this planet.

Your problem solving, with all its
side effects, can easily affect
other people.

It could actually make **their** lives
more difficult.

So if
'ethical behaviour' or
'consideration for others' are
important values for you,

and
your problem solving affects
other people,

then you should take **their**
viewpoints, time frames and
value systems into account
before deciding on a
course of action.

If you hold a **public office**
in a democratic country,
this is part of your job.

As a **private individual**,
this is a matter of your
conscience and honesty.

Where to start?

1. identify the affected parties.
If in doubt, ask them
2. be aware of your limitations.
Whenever you think of yourself
as an 'I know best' genius,
or of others as idiots,
warning lights should start
flashing in your mind
(See chapter 6, p. 62,
and appendix D, p. 266)

3. be aware that planned
problem solving starts with a
decision making process

4. choose a decision making
method with 'built-in' support for
other party's perspectives

In simple everyday situations with
only a few persons affected,
common sense and good
communication between parties
may be 'method' enough.

How to proceed?

1. constructive discussions need structure and clarity. Visualizing **lines of arguments** helps to promote both. So does visualizing **common and diverging views**.

Appendix G, p. 441, shows how to do that.

2. a 'multi-party decision matrix' diagram (scary name, simple concept) is a **general purpose decision making tool**.

It has built-in support for other perspectives, and is suitable for both simple and complex situations.

Appendix F, p. 356, shows how to use this tool.

3. **larger-scale decision making** (political or not) affects many people and should satisfy high **quality demands**.

Appendix E, p. 294, outlines a process which can do that.

Considering affected people's perspectives is essential, but not quite enough.

The critical moment comes when you commit to a course of action.

Will you choose the option that serves you (or your interest group) best? Even if this creates a situation that gives other people problems?

Or **will ethical behaviour win over pure self-interest?** This is not a small challenge to anyone's personal integrity.

Some people evade this challenge by declaring (disguising) their pursuit of self-interest as 'in the interest of the public'.

This is **hypocritical behaviour**, but not uncommon.

Appendix C progress

Intro	done
Basic concepts	done
Unwanted consequences ...	
... for you	done
... for others	done
Appendix C conclusion	up next

Except for very simple ones,
problems hardly ever get solved
without unwanted side effects.

**'Problem solving' is in practice
often 'problem replacement'.**

If this is done unskilfully, the new
problems can easily be **larger**
than the original ones.

Please remember that when you
hear someone hailing 'innovation'
as the ultimate response to
current problems.

Innovation refers to something
new and different. Not to
something better (or worse).

But **if** you skilfully replace existing problems with new but **smaller** ones, you do improve the situation.

To be able to do that consistently, you need to know some decision making methods, and how and when to use them.

Using visualization tools (e.g. 'multi-party decision matrix' diagrams or argument maps) can make this work easier.

Changing a situation requires **resources** and has its **risks**, especially when moving into unfamiliar territory.

Hence it is a good idea to double check if the original problem is worth those before taking action.

Sometimes it can be smarter to live with (and work around) a well-known problem.

Remember also that 'problem', 'disadvantage' and 'advantage' are mental tags applied to facts.

This implies that problems can be solved on a **physical level** (by changing facts), but also on a **mental level** (by changing one's attitude towards the facts).

The former seems to be the human mind's default option. **Jumping into action** is much more tempting than **contemplating** one's own attitude.

Note that not all situations allow a free choice of approach.

The metaphor

'the grass is always greener on the other side (of the fence/hill)'

expresses nicely how **an illusion can cause discontent** with one's own current situation.

Decision making methods can help us to figure out where 'the grass is greenest', how to get there if desired, and what the journey would cost us.

Without them, we might end up chasing an illusion, and finally with a bad outcome.

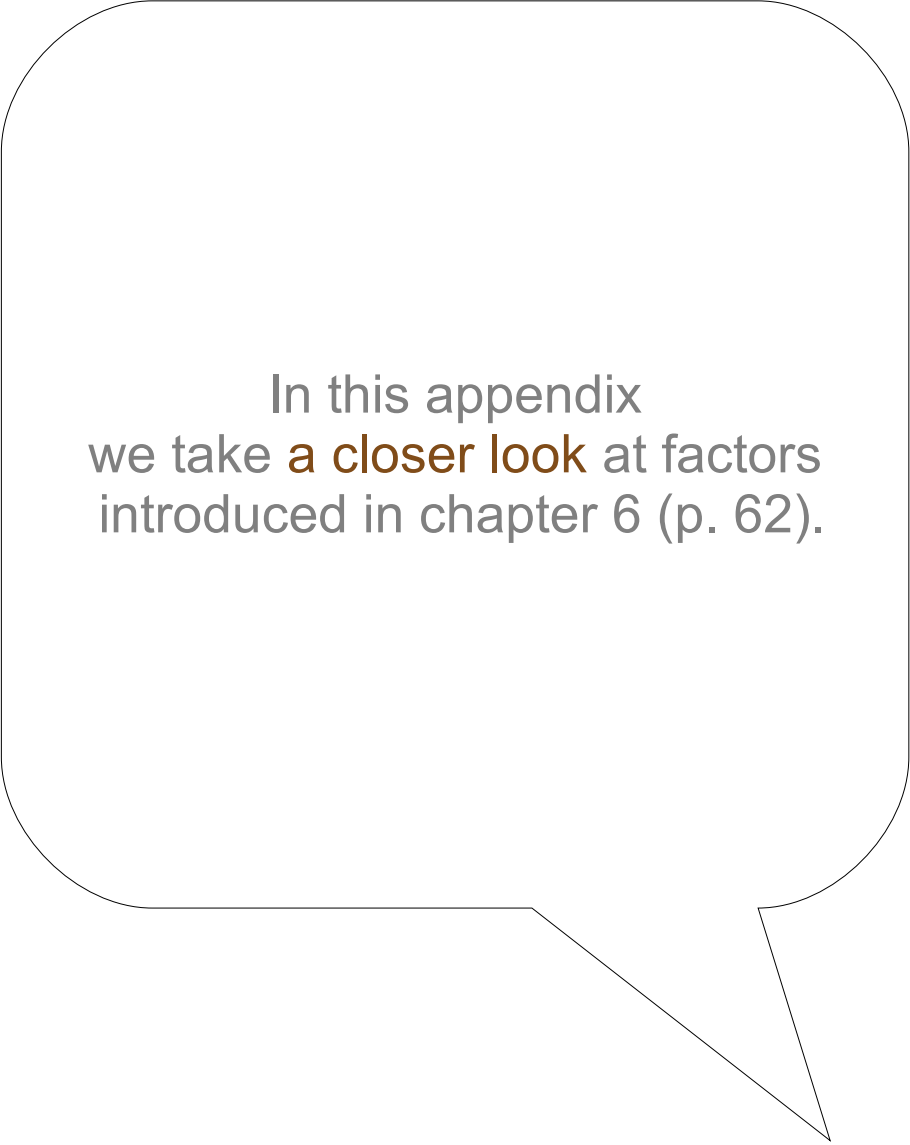
For us or for someone else.

Appendix D

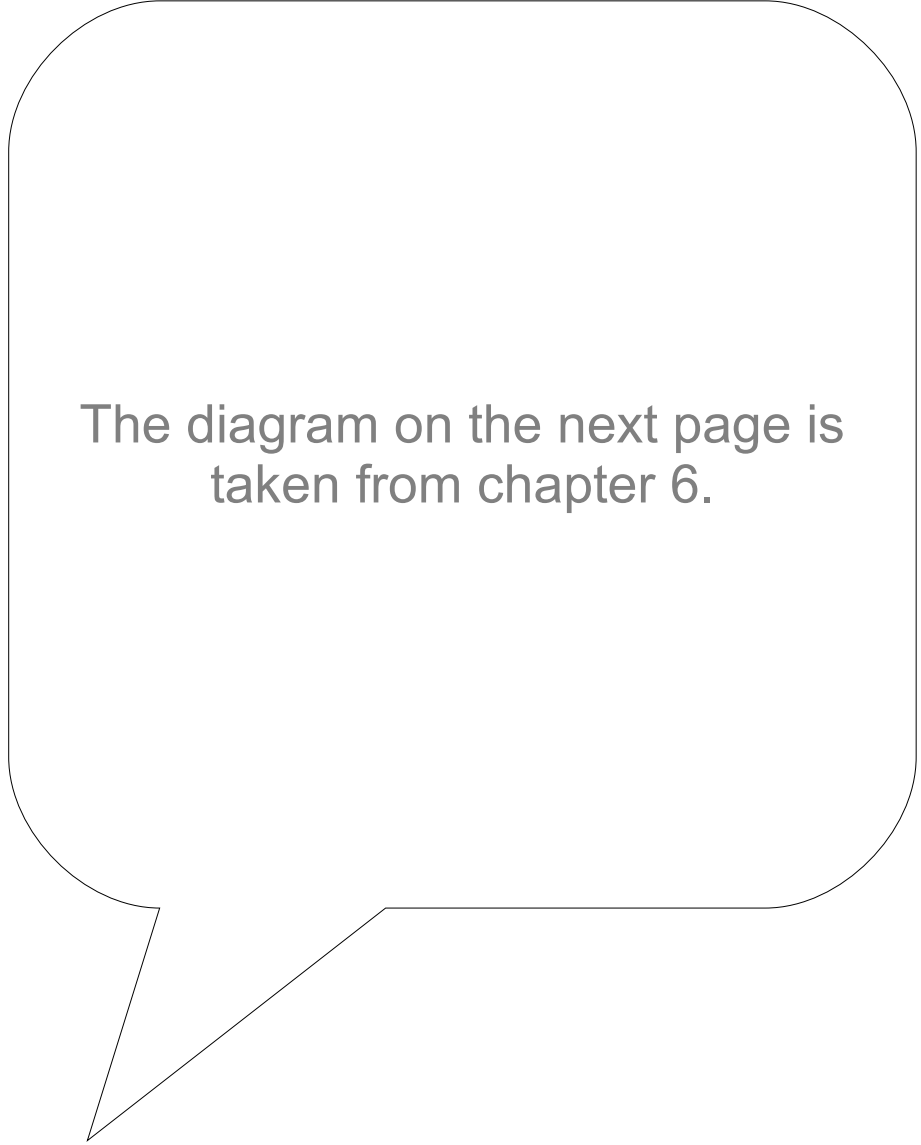
Factors that hinder good decision making

Briefly explained

Estimated reading time: 12 minutes



In this appendix
we take **a closer look** at factors
introduced in chapter 6 (p. 62).



The diagram on the next page is
taken from chapter 6.

Always present,
unintended

Inability to fully grasp complex situations

Slow analytical thinking

Intuitive decision made before reasoned decision

Selective perception obscures view of situation

Emotions interfere with reasoning

Poor foresight

Peer pressure

Assumptions mistaken for facts

Prejudices mistaken for facts

Manipulative statements mistaken for facts

Hindering factors

Often present,
unintended

Poor understanding of probability and risk

Oversimplification / polarization

Wishful thinking / doomsday thinking

Poor logical thinking

Overconfidence

Old wisdom applied to fundamentally different situation

Poor attention to details

Lack of imagination

Open conflict of interest

Often present,
intended

Hidden conflict of interest (hidden agenda)

Fig. 6.1 : factors hindering good decision making

Appendix D progress

Intro done

Overview diagram done

Hindering factors that are ...
... always present but unintended up next
... often present but unintended
... often present and intended

Hindering factor:

Inability to fully grasp complex situations

A complex situation consists of many elements such as facts, processes and relations between them. There may be tens, hundreds or more elements.

In order to fully grasp a situation, we must develop a **mental model** of it.

Unfortunately our minds fail to do so if there are more than about 5-10 elements involved.

As a workaround for this limitation, we often **resort to focusing** on just a few elements at a time, while disregarding all others.

This means **we never see the whole picture**, only small parts of it.

However, from these small parts we may be able to develop a much simplified mental model of the situation.

This model would be inaccurate, but in most cases better than nothing.

Unfortunately we are usually **not aware** of how simplified and inaccurate our own view of the situation is.

Hindering factor:

Slow analytical thinking

Usually there is only **limited time available** before a decision must be made.

In order to get the best result, the situation (and expected outcomes of different choices) should be analyzed completely within this time.

Very often **this is not done**, mostly because we are **not able** to do that kind of thinking fast enough.

Hindering factor:

Intuitive decision made before
reasoned decision

Every new situation we face
is very quickly evaluated by
our subconscious mind.

It then often advises (or alerts) us
by making us feel an **impulse
to think or act** in a presumed
correct way.

This first impulse serves us well
as a survival mechanism, and as
a guide in familiar situations.

**In unfamiliar or complex
situations, this impulse is
often wrong.**

Nevertheless, it influences or
even dominates our conscious
thinking. Often it urges us
to search for arguments that
support it, and to discard others.

Hindering factor:

Selective perception obscures
view of situation

'We see what we want to see.'

Our senses can deliver
information at a much higher rate
than our conscious mind can
process it.

Fortunately, physical and **mental
filter** mechanisms save us from
information overflow. They do this
by **blocking seemingly
unimportant information** from
reaching our conscious mind.

Unfortunately, this often includes
valid information that contradicts
our already established views.

Hindering factor:

Emotions interfere with reasoning

Bodily conditions, emotions and thoughts influence each other mutually. But conflicts between them are common.

Example: sometimes people, while in a rage, smash something expensive they own. Not because of sound reasoning, but because of interfering emotions. Along with certain hormones in their bloodstream.

Appendix D progress

Intro done

Overview diagram done

Hindering factors that are ...	
... always present but unintended	done
... often present but unintended	up next
... often present and intended	

I believe some hindering factors
in this category need no further
explanations:

Poor foresight

Assumptions mistaken for facts

Prejudices mistaken for facts

Old wisdom applied to
fundamentally different situation

The next pages list the ones
that do.

Hindering factor:

Peer pressure

Societies have social norms that define acceptable and unacceptable behaviour.

Peer pressure is a similar **control mechanism**, but limited to a smaller peer group (e.g. your family, neighbours or co-workers), and often more intense.

It therefore feels difficult to say or do something your peers will not approve of.

Even if you believe it is right.

Hindering factor:

Manipulative statements
mistaken for facts

Much of the information presented to us by other persons (directly or via various media) is meant to make us feel or think in a particular way. Namely the way intended by the other person.

Often enough **we do not recognize these manipulation attempts** and accept biased information as correct.

Such attempts can target us through all common formats (e.g. articles, reports, diagrams, statistics, photos, video footage, speech).

Note that **rhetorically brilliant** statements are almost by definition manipulative.

Hindering factor:

Poor understanding of probability
and risk

Most of us have no education in risk analysis and rather weak skills in probability mathematics.

Instead, our understanding of probability and risk is usually based on own personal experience and intuition.

Intuition, however, does not work well for estimating probabilities.

We tend to expect outcomes that are in fact improbable, and to be surprised by probable ones.

In familiar situations, we often end up **underestimating** risk because they 'always turned out OK so far'.

The difference between high risk and guaranteed damage is also not clear for many of us.

Example: discussions about the health risks of smoking, where a 'still healthy neighbour who has been a heavy smoker for 30 years' is cited as 'evidence' against such risks.

Hindering factor:

Oversimplification / polarization

Complex situations become easier to grasp if we disregard information that has no bearing on their outcome.

If such simplifications are not made carefully, also relevant information is disregarded.

Later conclusions will then be wrong.

In extreme cases, the real situation is reduced to a 'black and white' only scenario.

This is often done intentionally for **propaganda** purposes, or to meet the demands of fast paced **media**.

Hindering factor:

Wishful thinking /
doomsday thinking

This is optimism or pessimism
not sufficiently supported
by arguments and facts.

In effect, hope or fear replaces
sound judgement.

Hindering factor:

Poor logical thinking

Many, many things can go wrong in this area. This one is very common:

A statement of the type '**A follows from B**' looks often like a logical and convincing argument in a discussion.

However, if such a statement is true or not depends usually on additional conditions:

'A follows from B (but **only if C and D are true**)'

Until it is clear what these conditions are, and that they are met, **the original statement is logically not sound** and therefore not a good argument.

Example: 'wider roads give better traffic flow' (but only if traffic does not increase proportionally as a result, and if there are no other bottlenecks).

Hindering factor:

Overconfidence

This is the **delusion** of having thorough understanding and control of a situation.

As a consequence, sensible checks and precautions are considered unnecessary.

(A well-proven recipe for trouble)

Hindering factor:

Poor attention to details

'The devil is in the details.'

Not in all of them, but you don't know in which ones until you actually take a close look.

If a decision turns out to be bad, it doesn't really matter if it is bad because the decision maker lacked overview or 'only' overlooked a crucial detail.

Some decision makers are not willing or able to deal with details.

These need to delegate this task to competent others, and to carefully consider their findings before deciding.

Hindering factor:

Lack of imagination

We see opportunities and threats only within the boundaries of our own personal imagination.

Very real opportunities or threats that exist outside these boundaries will not be noticed.

Note that these boundaries differ from person to person.

Hindering factor:

Open conflict of interest

In some situations a decision maker may have personal, professional and/or political interests.

These interests are often in conflict with each other.

Example: a manager who has the option of becoming very rich by transactions that later on may ruin the company

If such a conflict of interest
is not kept secret,
but readily acknowledged by
the decision maker and made
known to everyone involved,
it is of the open variety.

But even if a hidden agenda
can be ruled out, and
the decision maker honestly tries
to act ethically correct, the
decision making process can
easily be biased.

Note that the bias could also
be against personal (and
other) interests, because the
decision maker may want to
prove his integrity.

Appendix D progress

Intro done

Overview diagram done

Hindering factors that are ...

... always present but unintended done

... often present but unintended done

... often present and intended up next

Hindering factor:

Hidden conflict of interest
(hidden agenda)

As in the 'open conflict of interest' scenario, the decision maker has diverging interests in a situation.

Again these interests are usually of a political, professional or personal nature (meaning: power, money, prestige, pleasure).

But this time the decision maker pretends:

- that there are no other interests (beside the official one),
or
- that there is no conflict.

At this point it must be assumed that the decision maker has a hidden agenda, and **is not willing to make an unbiased decision** in his official role.

Example: a politician who plans to retire from office next year, but has not made his intention public. The politician wants to work as manager in industry afterwards. In the meantime, he makes political decisions in favour of that industry.

Appendix E

Quality standards for decision making


What they could look like

This appendix picks up
a thread from the end (p. 109)
of chapter 7.

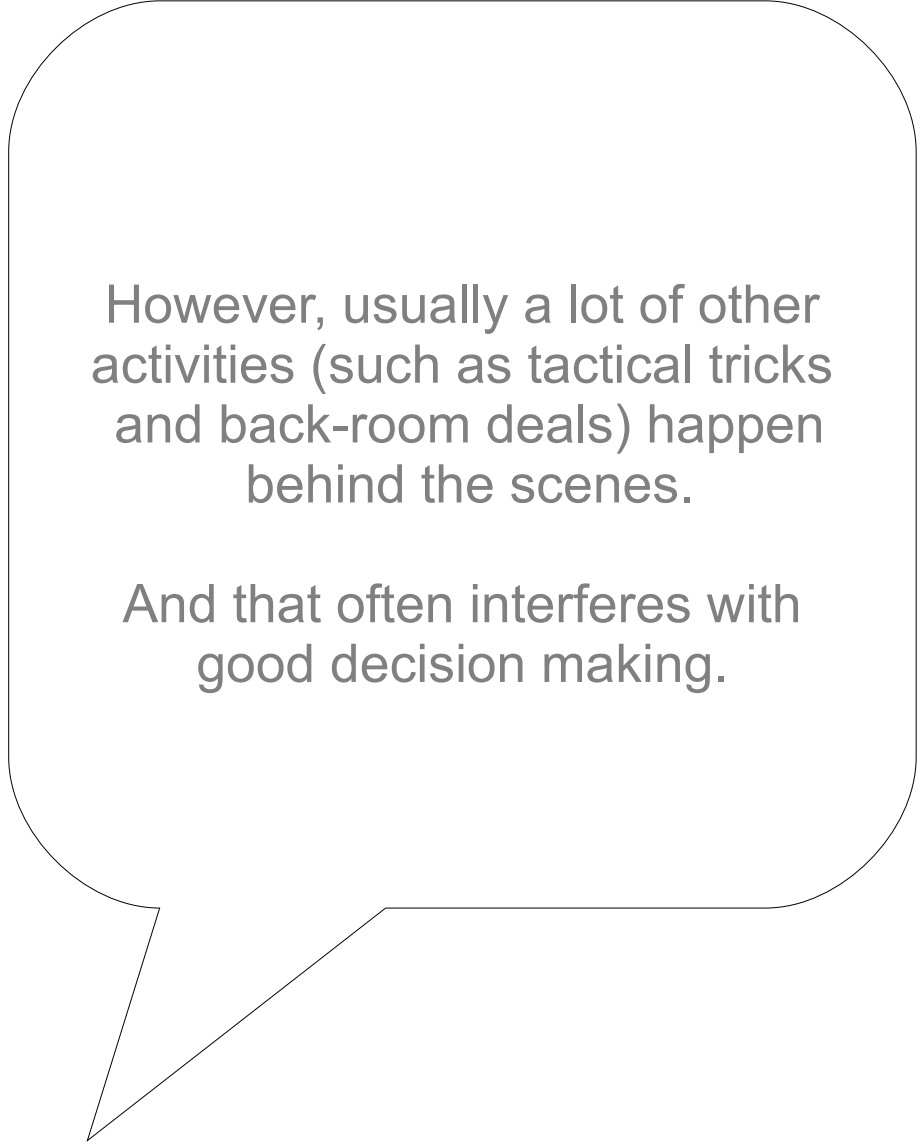
It provides a design outline.

A fully detailed, ready-to-use
standard is beyond the scope
of a text with 25 minutes
of reading time.

Although aimed at political
decision processes, the same
design can be adapted to
other scenarios.



Many democratic countries use formalized decision making processes that also include hearings and public debate.



However, usually a lot of other activities (such as tactical tricks and back-room deals) happen behind the scenes.

And that often interferes with good decision making.

In addition, these processes tend to consume much more time (and other resources) than is desirable.

Often such delayed decisions allow the original situation to become worse during the delay.

I believe it is possible to achieve

- better **decision quality**
- better **efficiency** and
- much more **transparency**

by making changes to the process design.

Appendix E progress

Intro done

Design considerations up next
Digression into aviation
Design principles

Roles
Process

In general, a quality standard can

- A) **define properties**
a finished product must have
- B) **define a way**
how the product must be
produced
- C) or both.

In this case, the 'products' are
(political) decisions.

Since they all differ from each
other, a type A approach is
impractical.

However, type B quality
standards can be applied to
decision making.

The **specific purpose** of such a quality standard is to prevent hindering factors from dominating the decision process.

Therefore the quality standard must ensure that **all hindering factors are counteracted, without making the process slow and inefficient.**

This is quite a challenge.

In principle, it is not too difficult to come up with lean procedures and checklists that work well under favourable conditions.

However, safeguarding the process against all imaginable eventualities (including abuse and human errors) is difficult.

Let's see what we can learn from an existing system that does just that.

Appendix E progress

Intro done

Design considerations done
Digression into aviation up next
Design principles

Roles
Process

Passenger air traffic.

This is a system that is exceptionally successful at preventing bad outcomes (in this case, flight accidents).

Why does it work so well?

For at least 7 reasons:

1.

There is no awareness problem, because the need (to avoid accidents) is very, very obvious.

2.

There is a strong motivation for having a really good system: fear of death.

3.

Hence the necessary **resources**
are made available.
Of course it helps that influential
decision makers tend to fly often.

4.

People working with air traffic
don't improvise. There are
procedures for 'everything'.
And they must be followed.
It does not pay to violate them
(important concept).

5.

'Everything' is operated by
trained/certified personnel.

6.

'Everyone' has **clearly defined**
responsibilities.

7.

Critical components are
redundant.

Now a change of perspective:

As a passenger (even more as a charter client) **you decide** when and where to you want to travel.

With a near 100% success rate, the system makes sure you get there without accident.

So you need to know what you want, but **you need no training** in how to run air traffic operations.

Political decision processes could benefit from a similar approach:

Members of a parliament, local council or government are the ones who decide, but trained specialists 'fly' the process.

Their exact roles are clarified later on in this appendix.

Aircraft pilots vs. decision process pilots

Air traffic

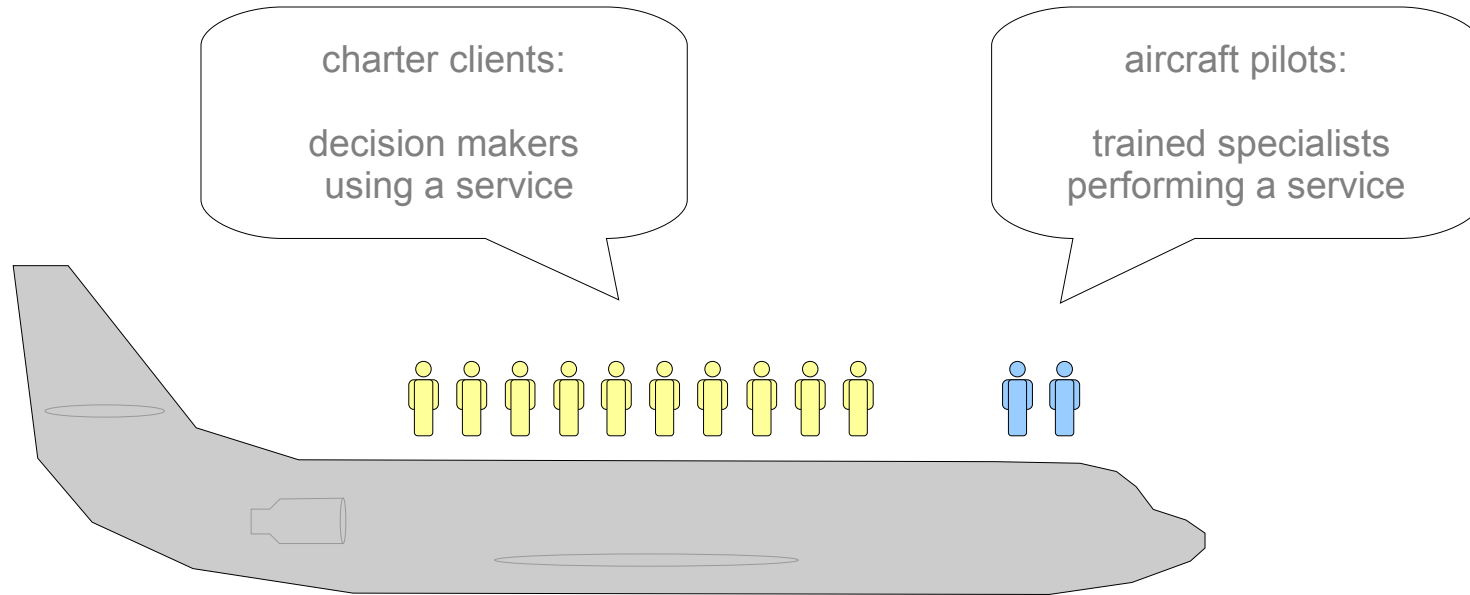


Fig. E.1a : aircraft pilots vs. decision process pilots

Aircraft pilots vs. decision process pilots

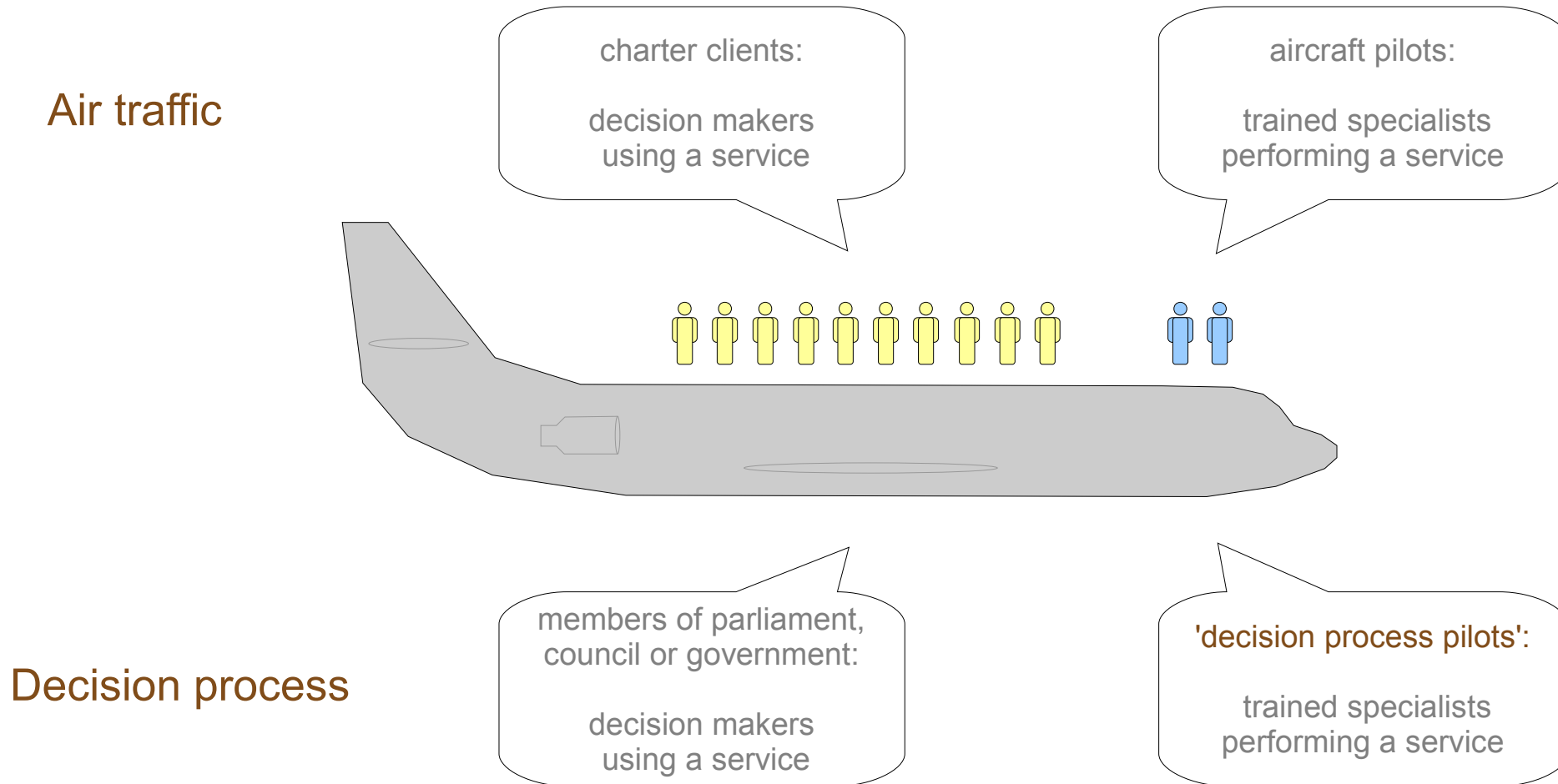


Fig. E.1b : aircraft pilots vs. decision process pilots

Appendix E progress

Intro done

Design considerations done
Digression into aviation done
Design principles up next

Roles
Process

We know already that we want:

- to prevent hindering factors from dominating the decision process
- this process to be efficient

What else is important?

1. **ease of use**: both decision makers, advisors and the public must find it easy to take part. 'Technical details' can be handled by the decision process pilots.

2. **transparency**: conducting the process in a public arena does counteract quite some hindering factors by itself, and makes both process and final decision credible.

There must be a **clear division** between public and internal arenas (which are also needed).

3. **reliability**: can be achieved using proven concepts such as procedures, checklists, formalized communication, clear responsibilities, redundancy

4. **simplicity, clarity, brevity:**

- required for 'ease of use'
- help transparency to its full potential
(free access to information becomes rather pointless if the information is incomprehensible or 'hidden' in bloated documents)
- help to achieve efficiency

5. **respect, politeness:** hard to design into a process, but nevertheless important. All participants should treat each other with respect and politeness (in addition to transparency, a rating/review function may help)

Appendix E progress

Intro	done
Design considerations	done
Digression into aviation	done
Design principles	done
Roles	up next
Process	

Decision process: role overview

Decision makers

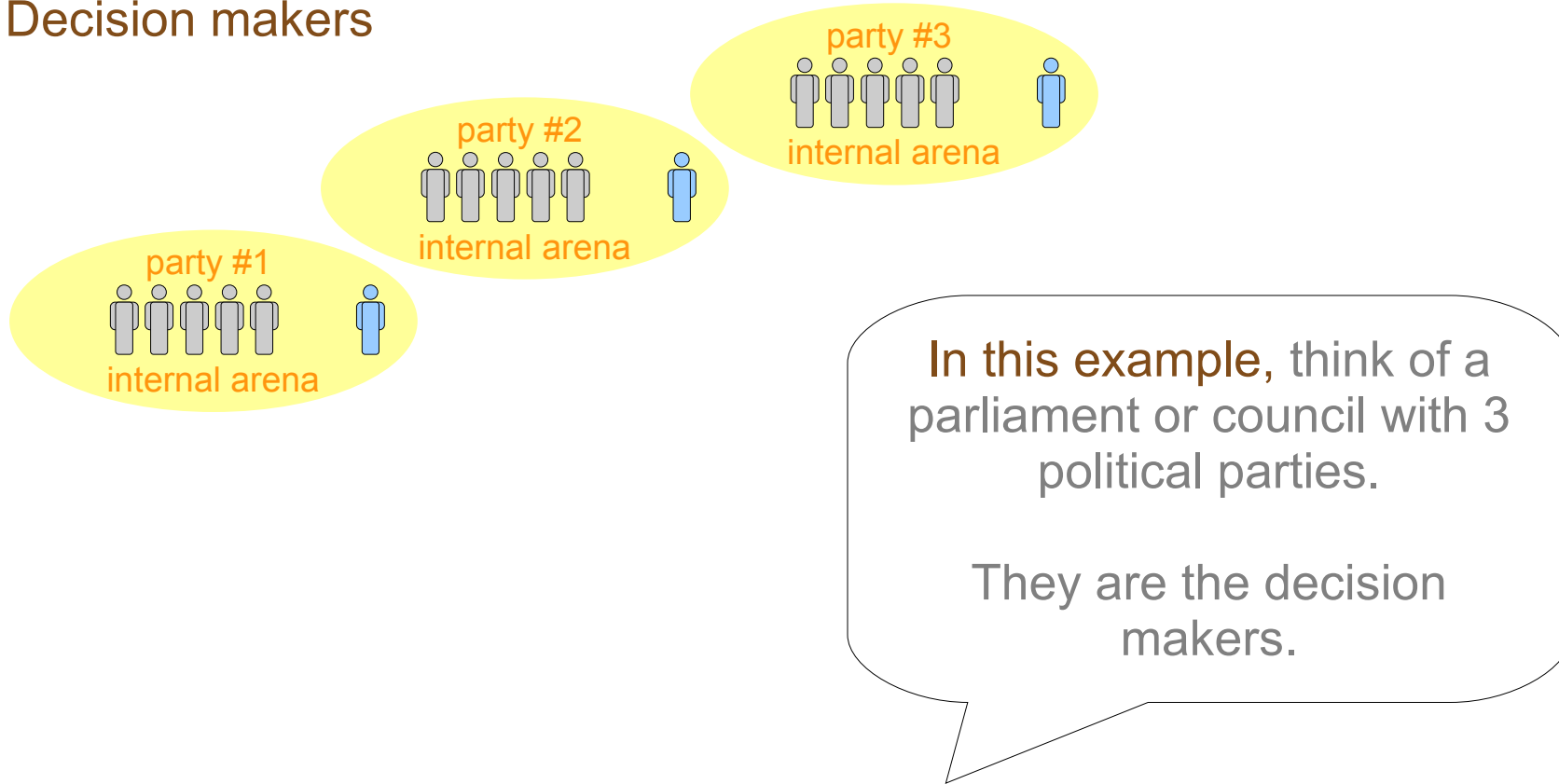


Fig. E.2a : decision process: role overview

Decision process: role overview

Decision makers

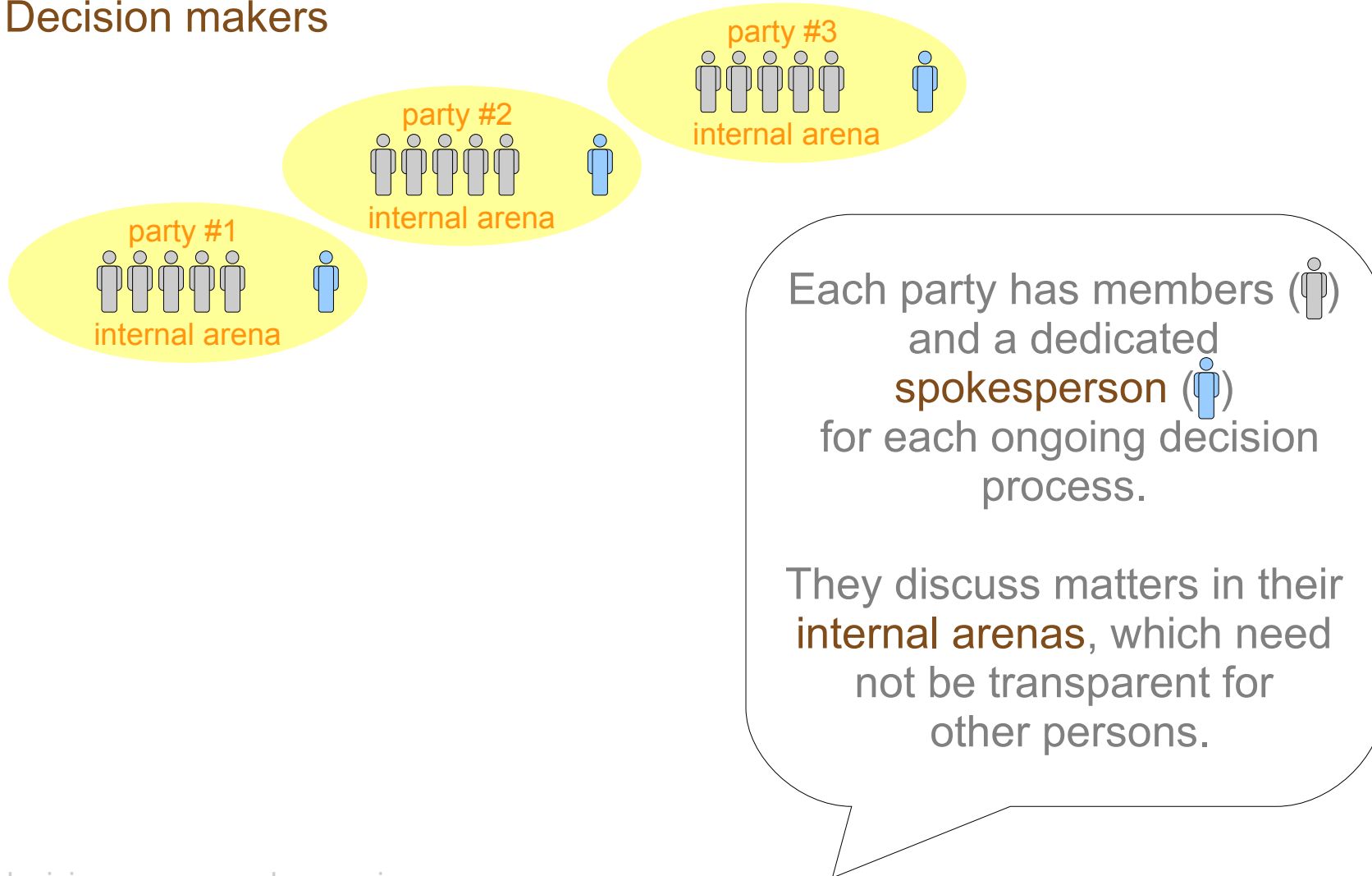
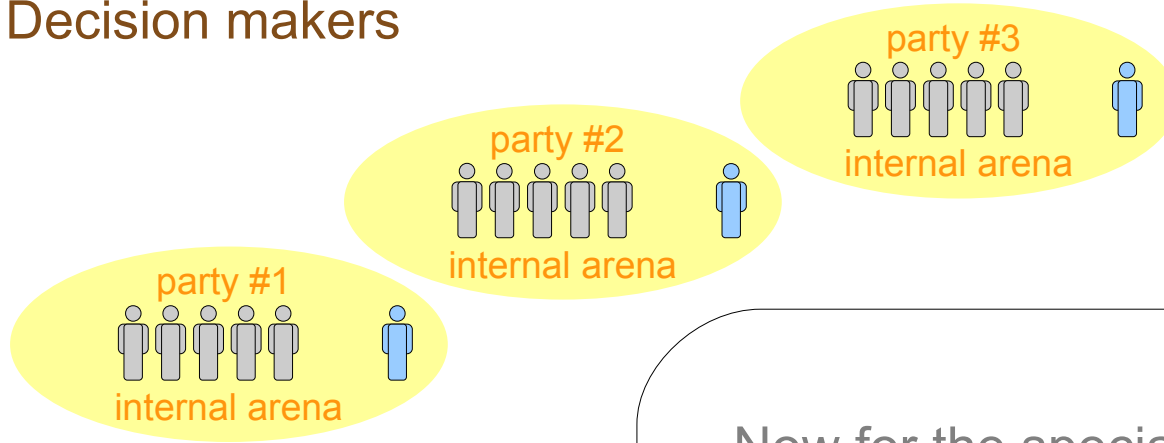


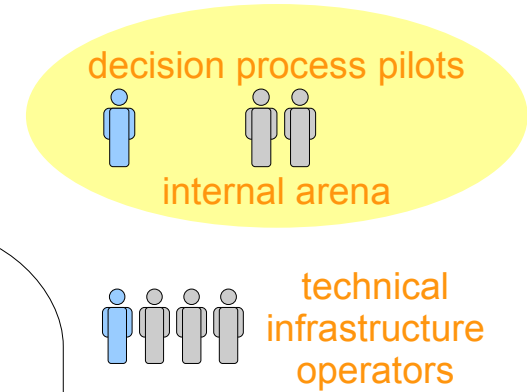
Fig. E.2b : decision process: role overview

Decision process: role overview

Decision makers



Specialists



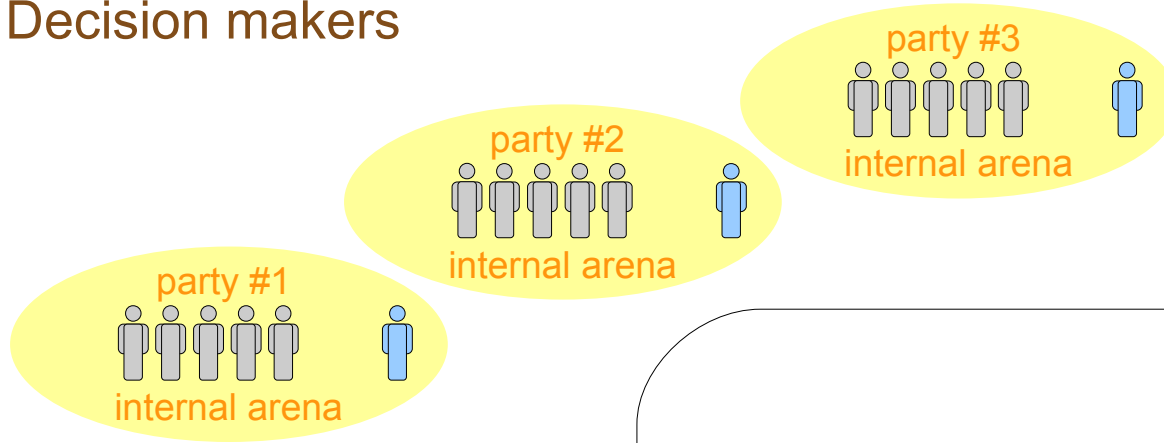
Now for the specialists:

There is one decision process pilot in charge (i).

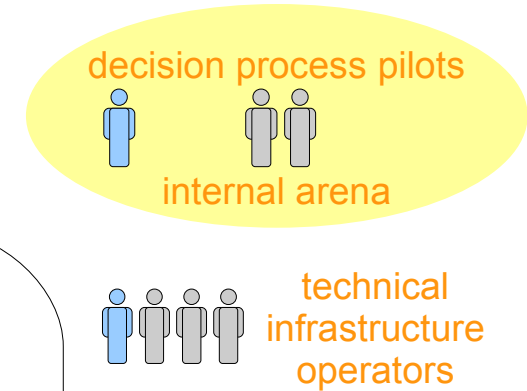
Another person (i) is in charge of the technical infrastructure.

Decision process: role overview

Decision makers



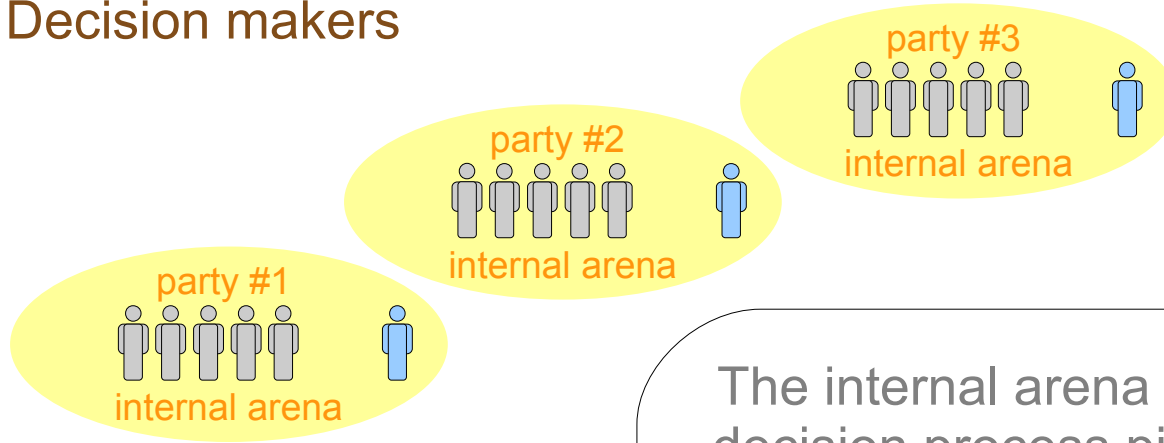
Specialists



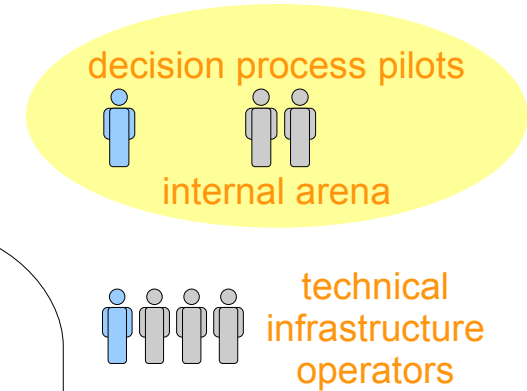
The size of the specialist teams (i) depends on the scope of the decision: group, local, regional, national, or international.

Decision process: role overview

Decision makers



Specialists

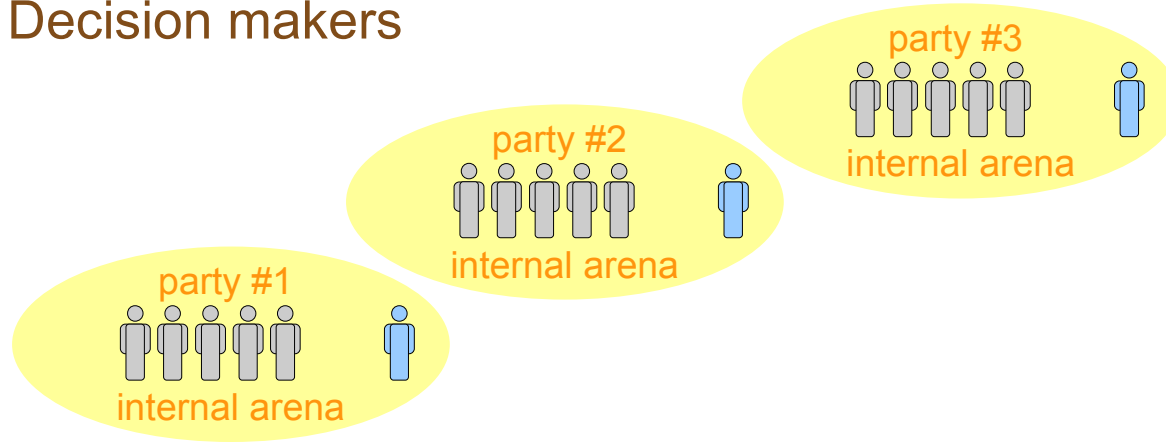


The internal arena of the decision process pilots is private to them.

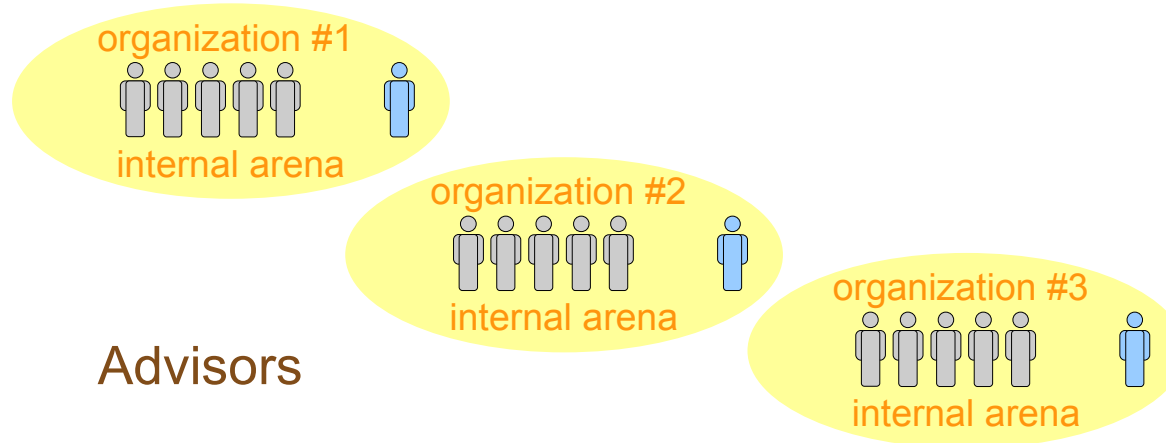
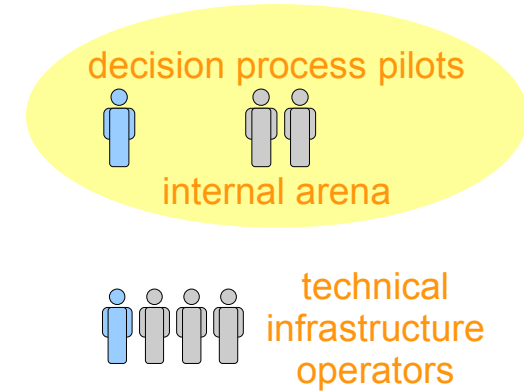
The internal arena for technical infrastructure operators is not drawn here, because their discussions are not part of the decision making process.

Decision process: role overview

Decision makers



Specialists



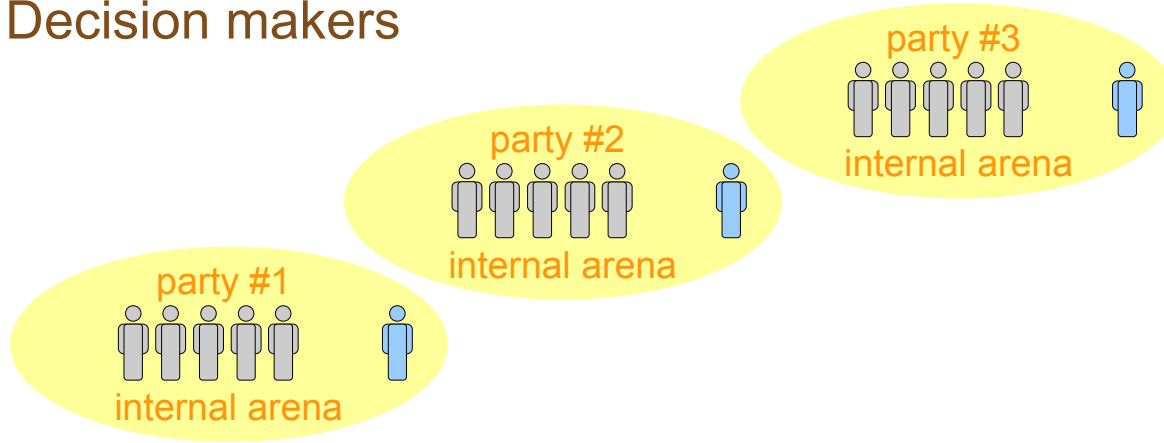
Advisors

The **advisors** are organizations (often interest groups, or expert associations) that are invited to **contribute their views** to the decision process.

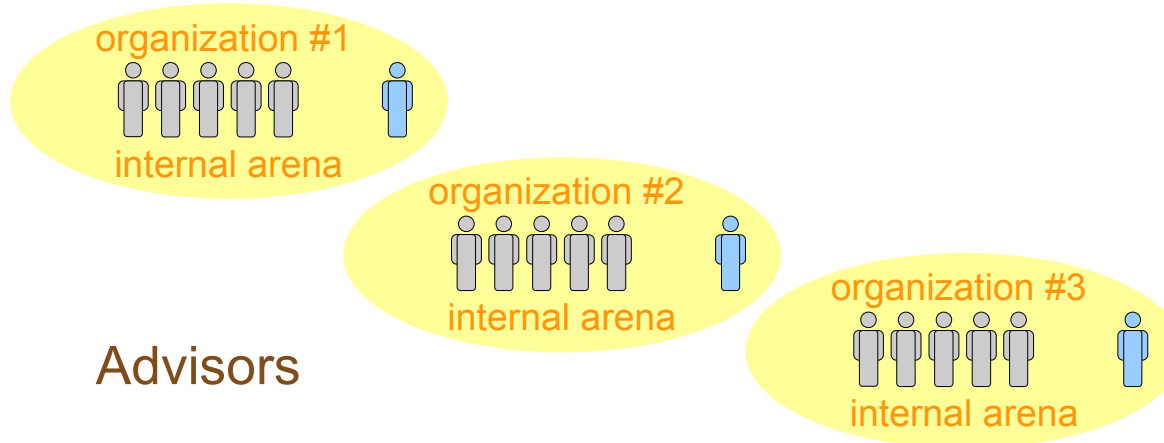
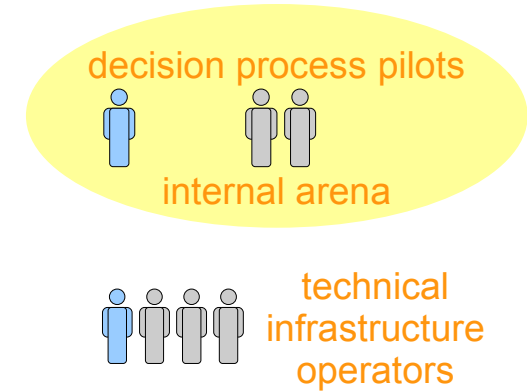
Fig. E.2f : decision process: role overview

Decision process: role overview

Decision makers



Specialists



Advisors

Also they need to nominate a spokesperson (👤) each.

Their internal arenas need not be transparent for other persons.

Fig. E.2g : decision process: role overview

Decision process: role overview

Decision makers

Specialists

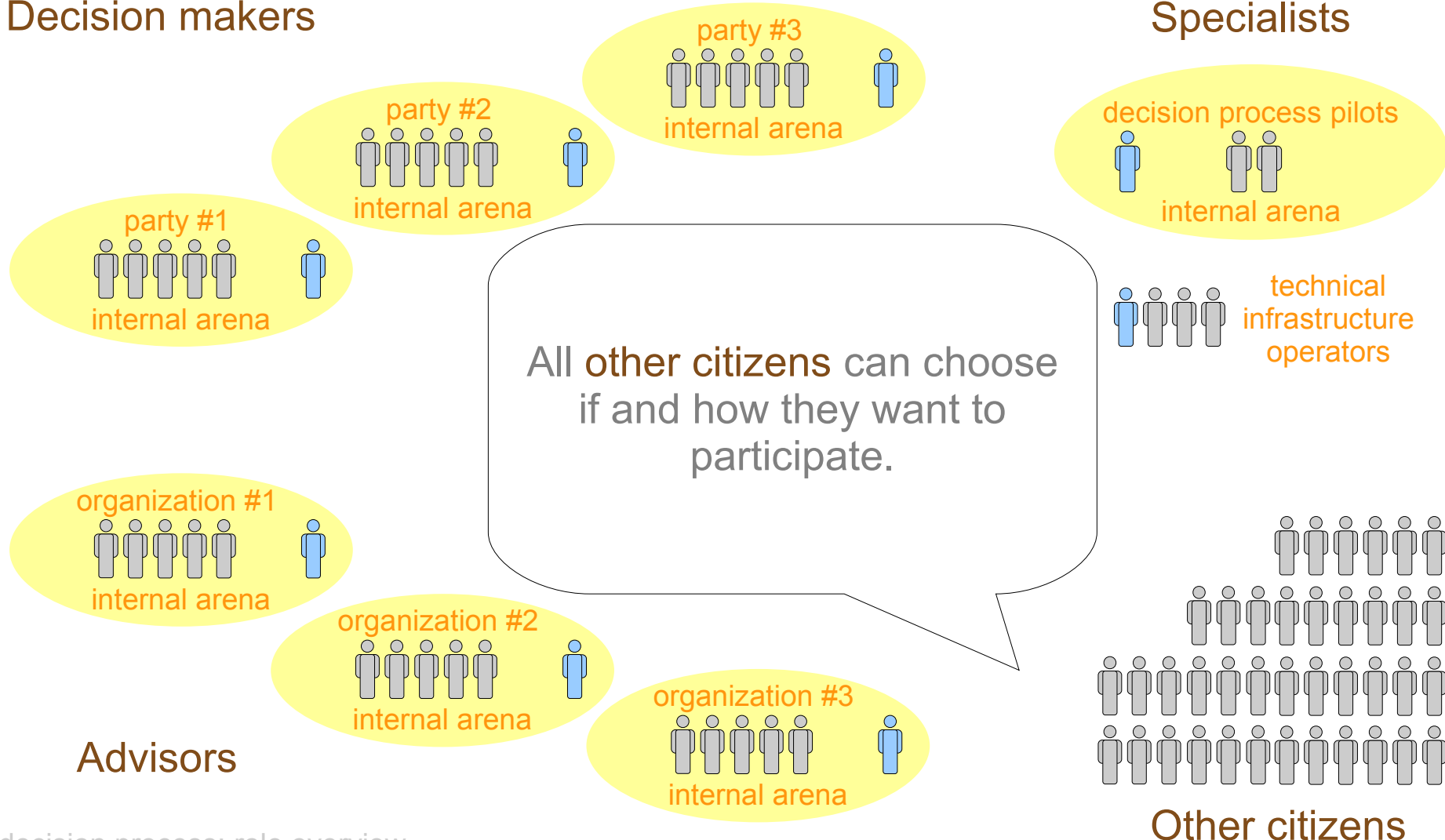


Fig. E.2h : decision process: role overview

Decision process: role overview

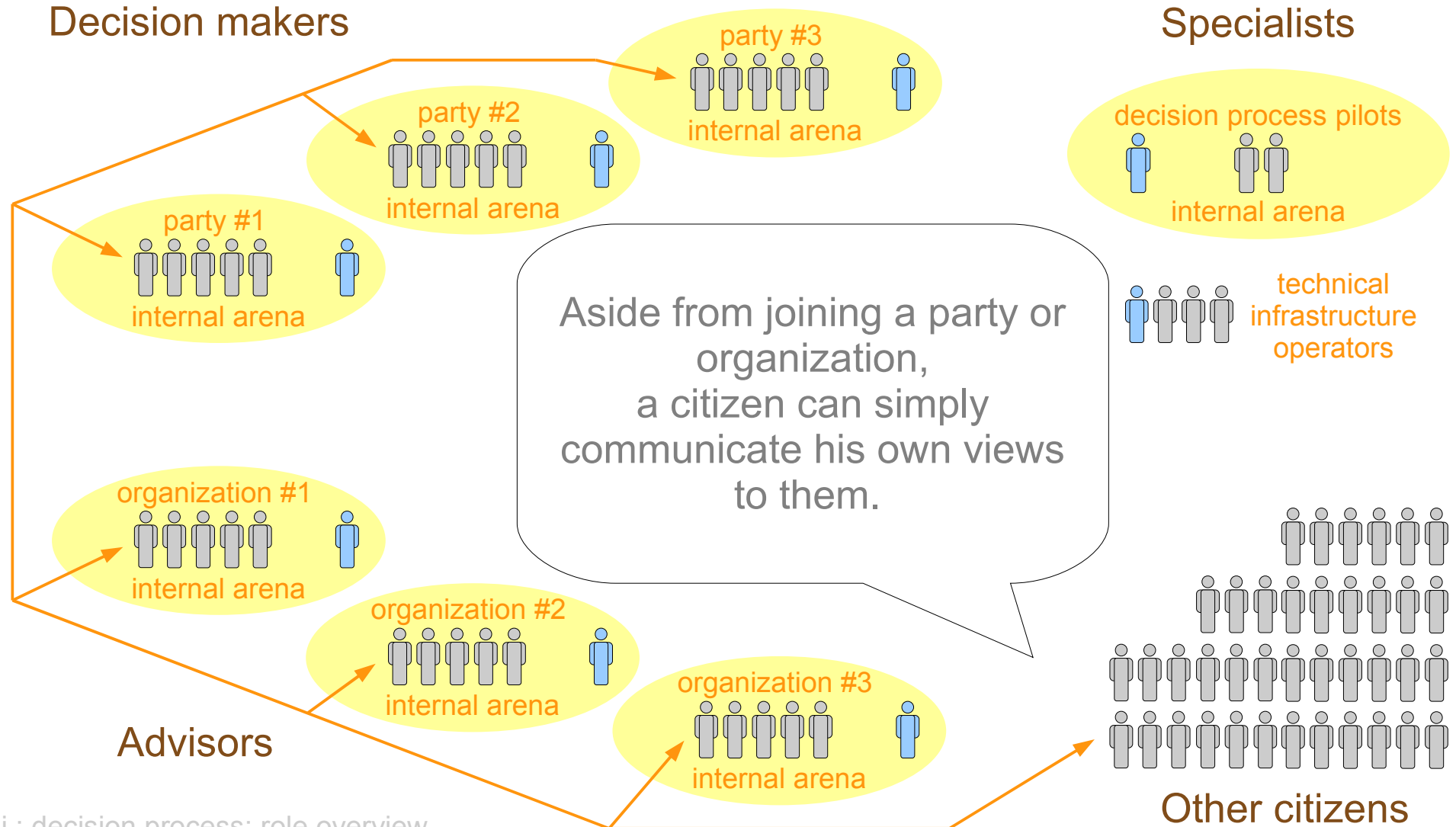


Fig. E.2i : decision process: role overview

Decision process: role overview

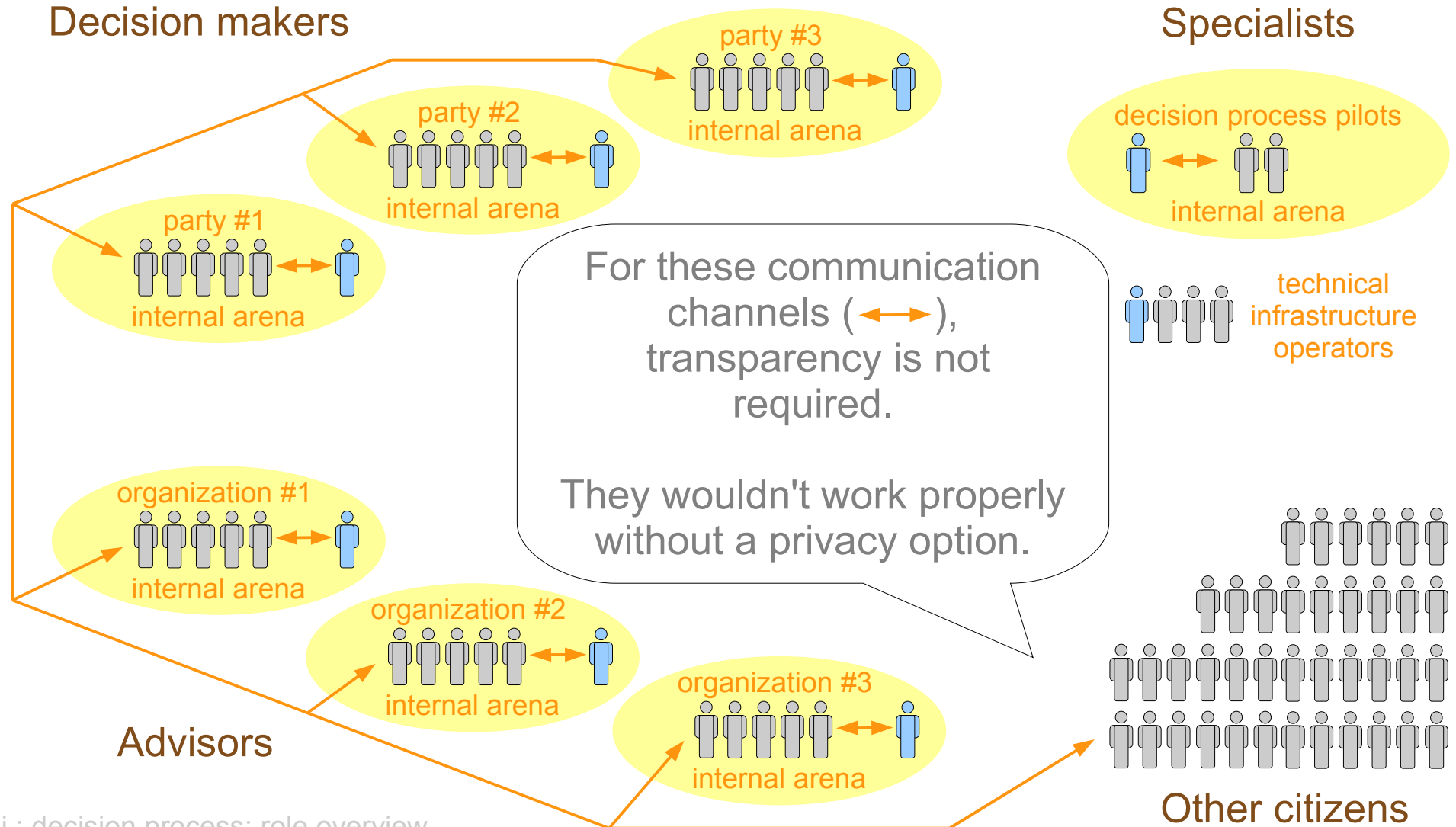


Fig. E.2j : decision process: role overview

Decision process: role overview

Decision makers

Specialists

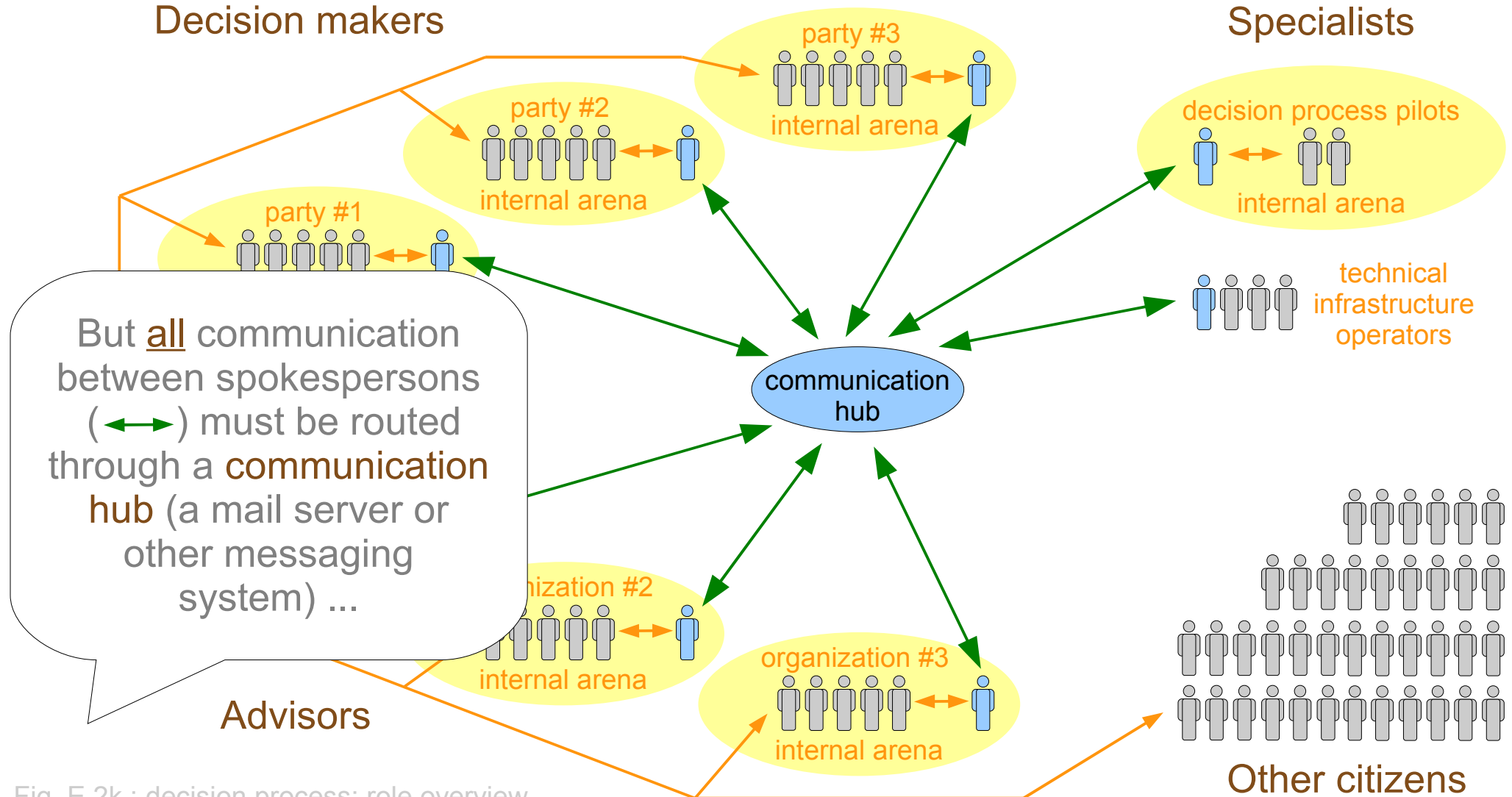


Fig. E.2k : decision process: role overview

Decision process: role overview

Decision makers

Specialists

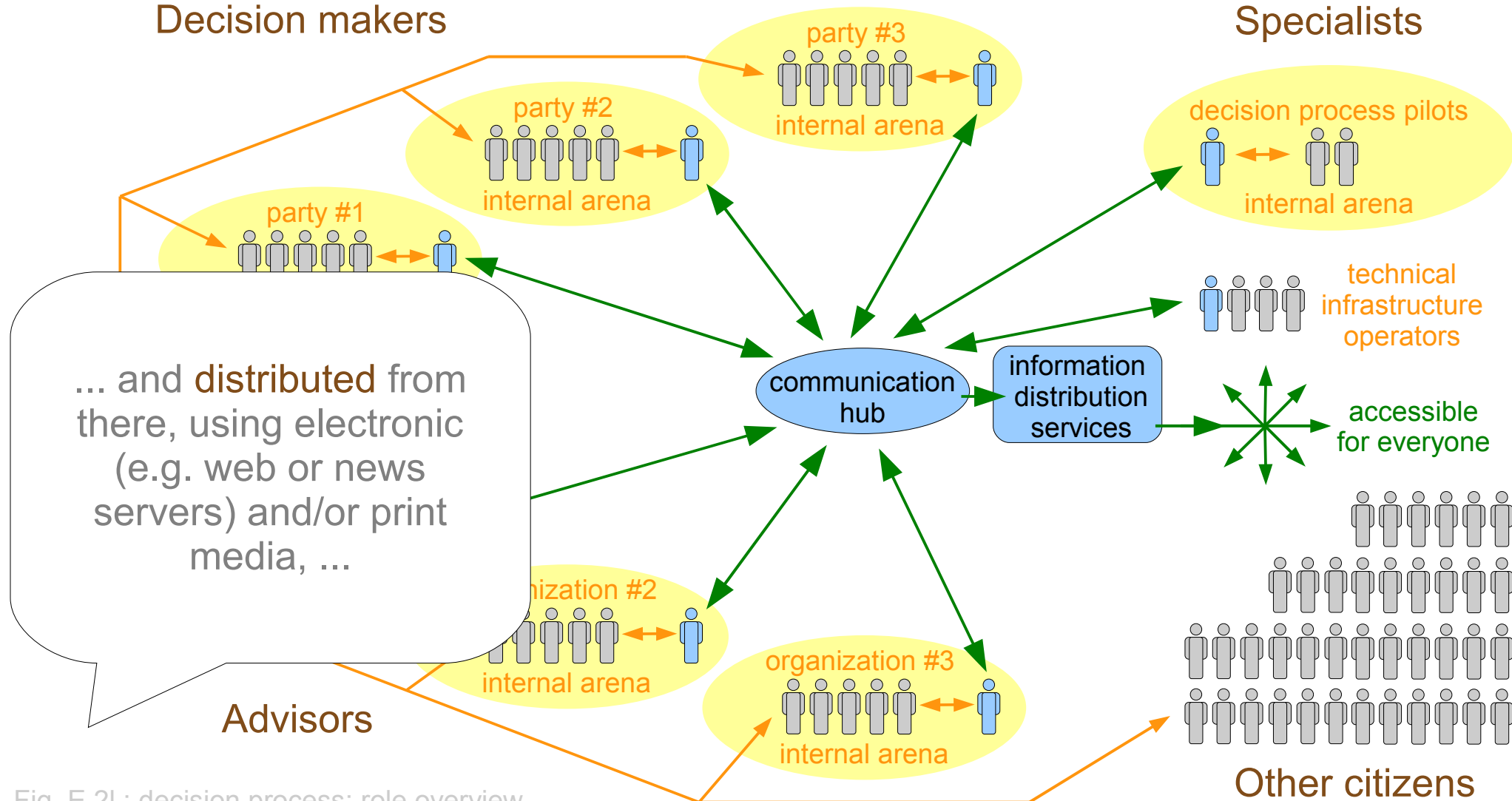


Fig. E.2I : decision process: role overview

Decision process: role overview

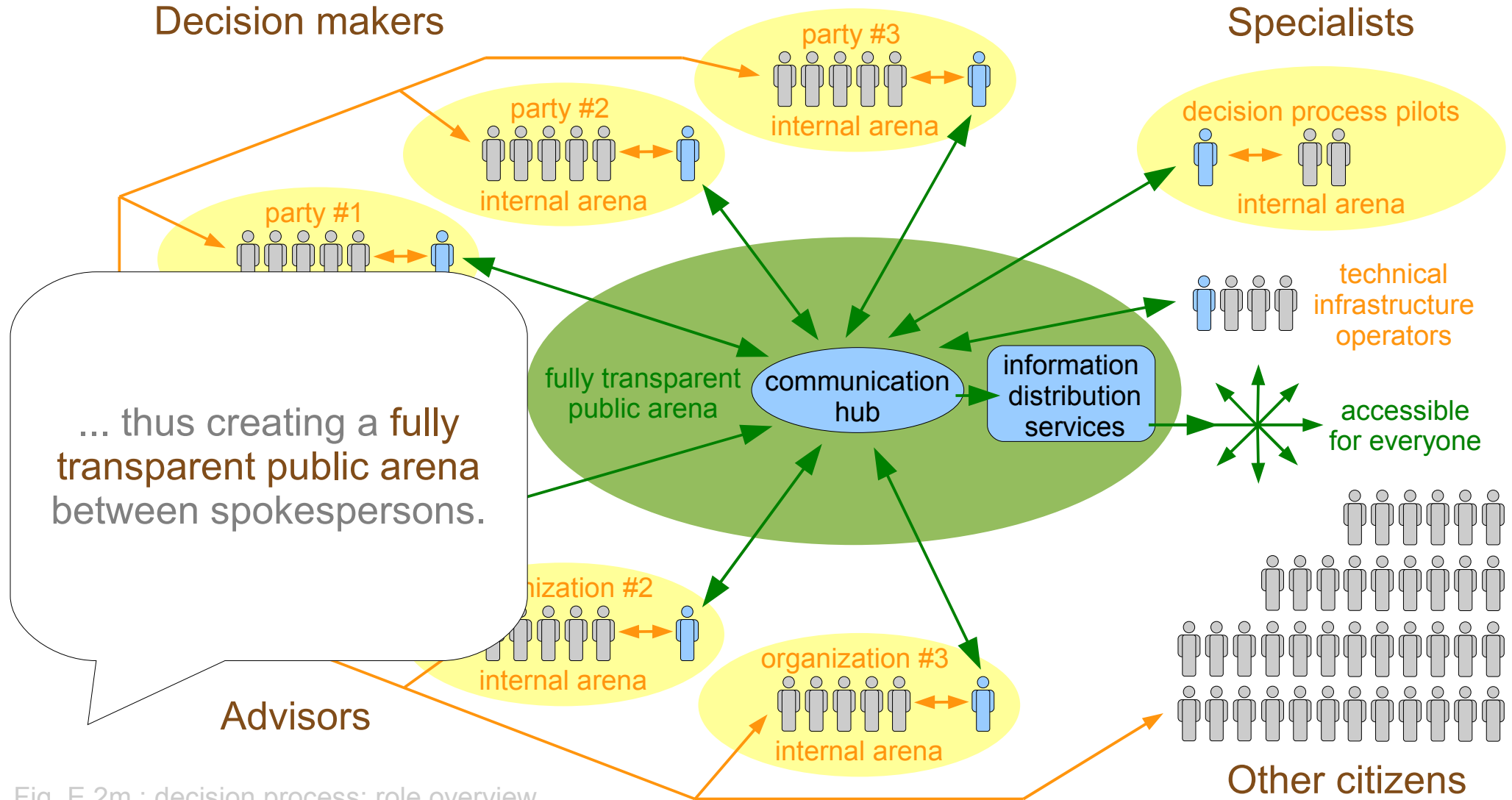


Fig. E.2m : decision process: role overview

Decision process: role overview

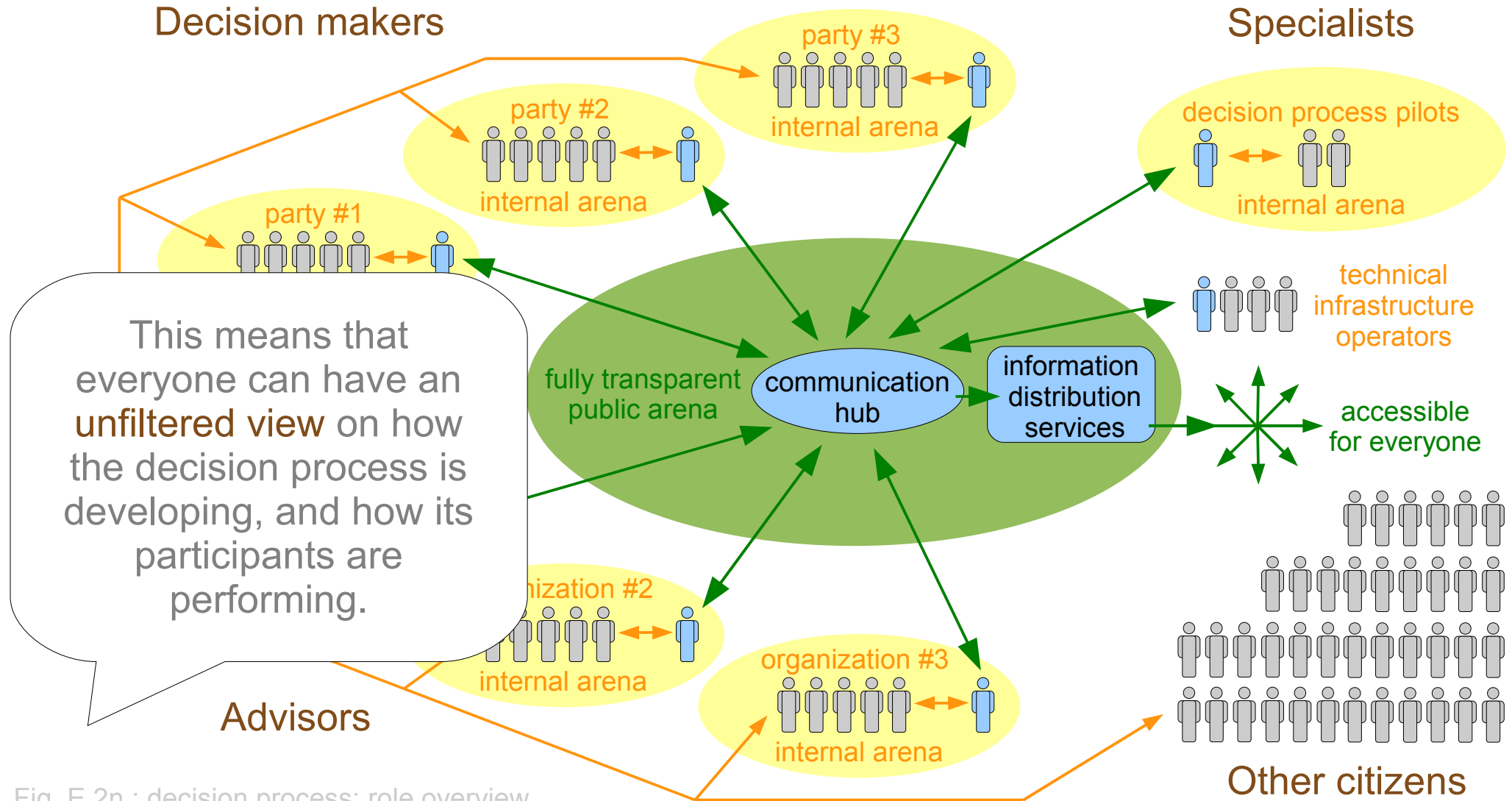


Fig. E.2n : decision process: role overview

Decision process: role overview

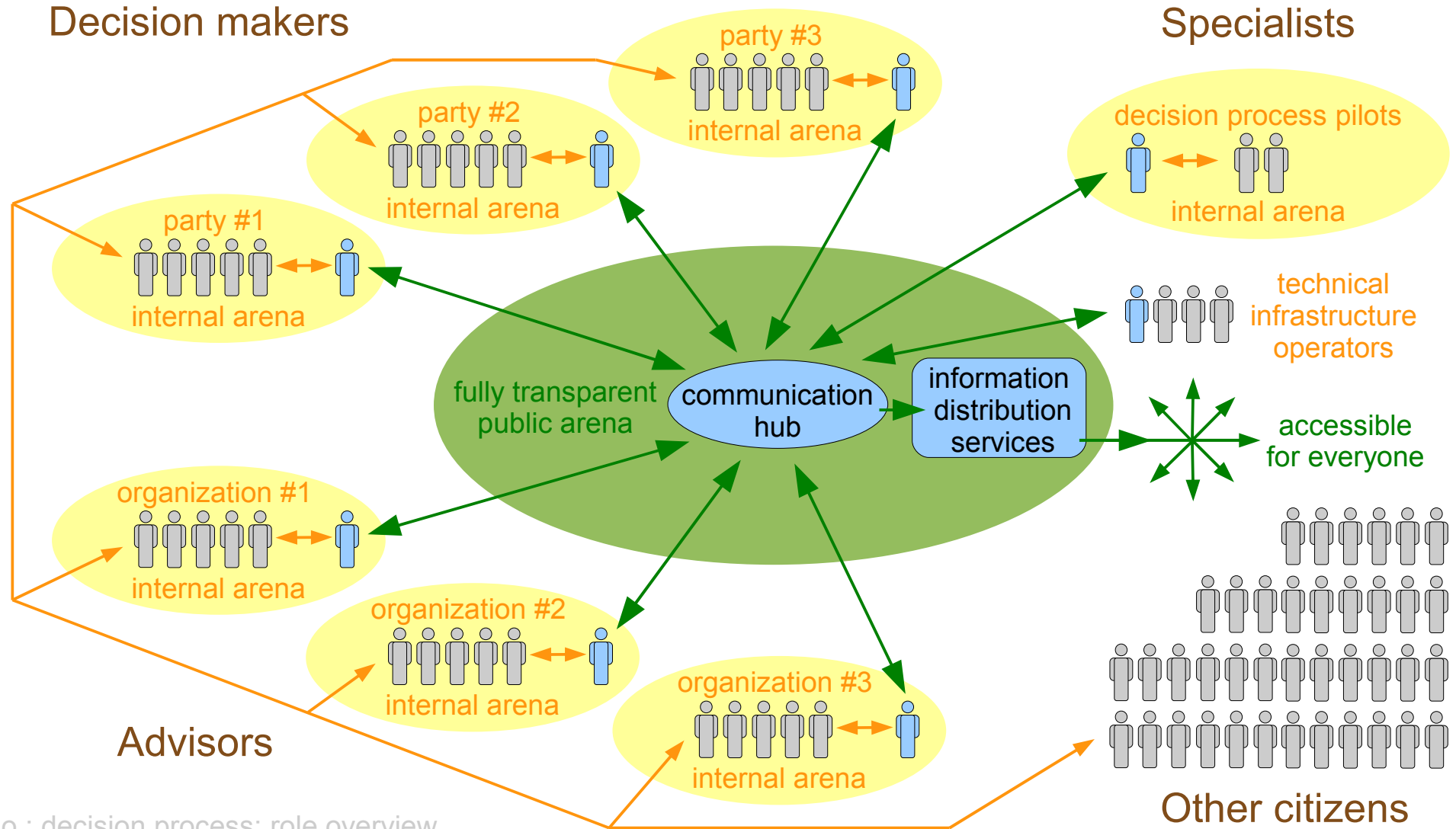


Fig. E.2o : decision process: role overview

Each spokesperson must agree to a **code of conduct**. This should be a single page document, containing statements such as:

'I will perform my duties competently and without delay'

'I will maintain a constructive attitude'

'I will follow the process communication protocol'

'I will respond to messages within 2 hours during daytime'

'I will express myself clearly, briefly, respectfully and politely'

The **decision process pilots** must agree to **additional** statements such as:

'I will conduct this decision process on behalf of the public, and in the best public interest'

'I have no personal interests or relations which may interfere with my duties'

'I have strong analytical, logical, and problem solving skills'

'It is natural for me to consider a discussed subject from several viewpoints'

'I know the difference between my views and the truth'

'I have a creative mind'

'I have strong visualization and presentation skills'

Each spokesperson must have a **deputy** who seamlessly steps in in case the original spokesperson becomes unfit for duty.

The deputies actively assist their spokespersons throughout the process.

Decision process pilots must be employed by an **independent foundation**.

Their salaries must not exceed 3 times the national average salary.

Anybody not content with such a salary is likely driven by greed, and therefore not the right person for this position.

More than
halfway
through.

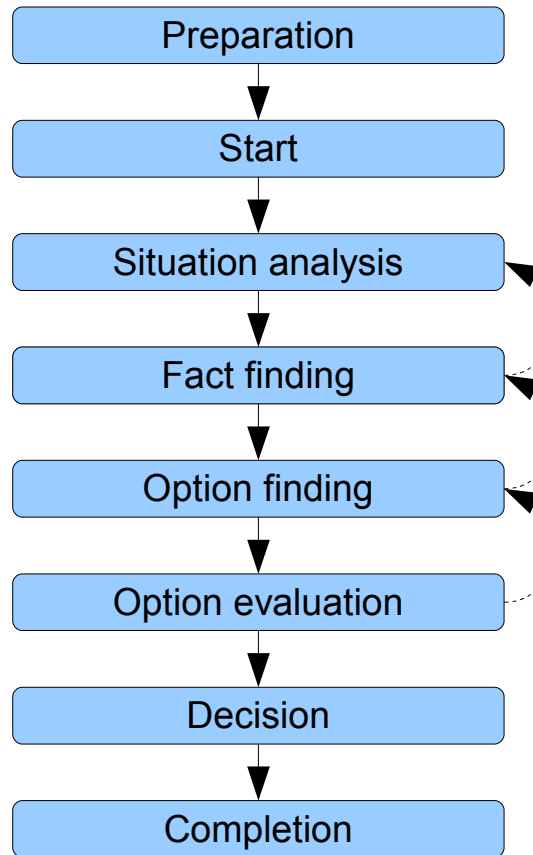
Appendix E progress

Intro	done
Design considerations	done
Digression into aviation	done
Design principles	done
Roles	done
Process	up next

Decision process overview

The basic structure looks like this.

The arrows indicate progress and possible iteration loops.

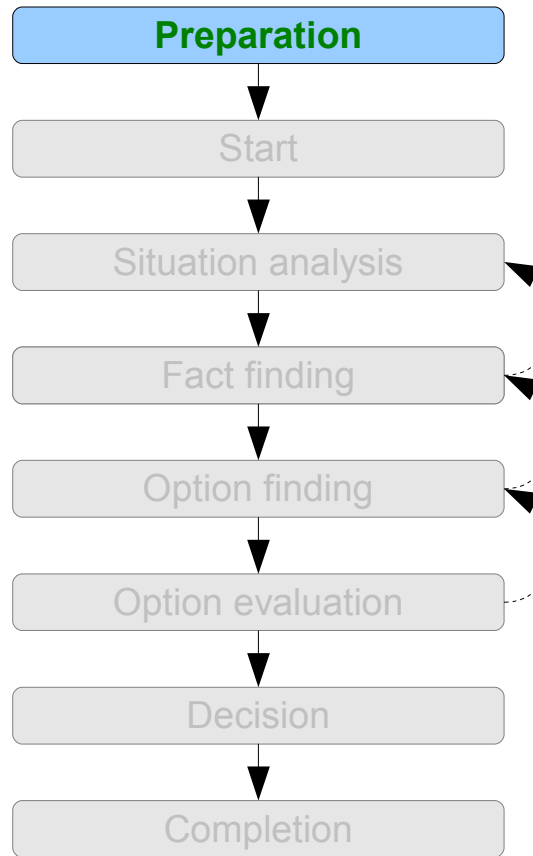


Each stage is briefly explained on the following pages.

Decision process overview

Either
the decision makers
wish to follow the quality
standard rules for the
upcoming decision,

or
a predefined trigger
condition (e.g. number of
affected people, budget
size) occurs, and **forces**
them by law to do that.

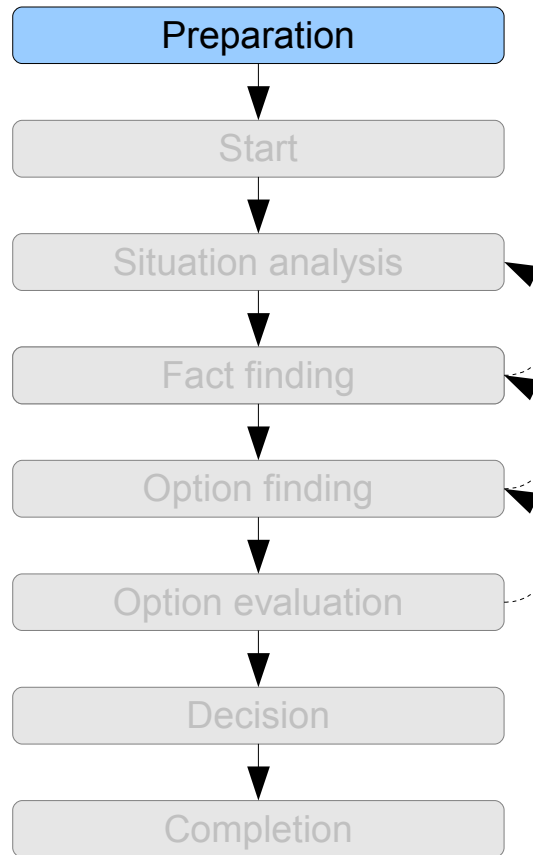


The decision making
parties choose their
spokespersons, who then
request a **decision
process pilot** from the
independent foundation.

The foundation chooses a
decision process pilot who
has **no personal interests**
in this decision situation.

Decision process overview

The party spokespersons and the decision process pilot choose their **deputies**.



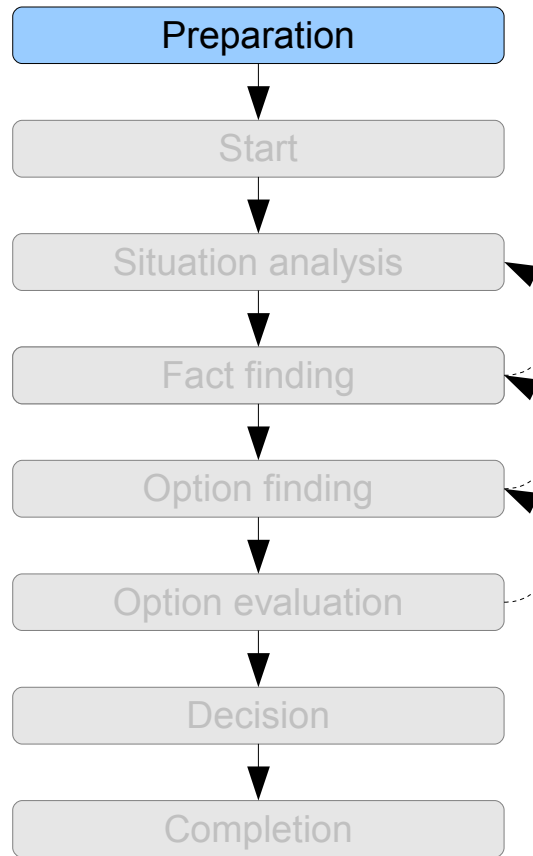
The decision process pilot chooses the organization that will supply the technical infrastructure.

That organization and the decision process pilot agree on a **Chief of infrastructure**, who then chooses a deputy.

Fig. E.3c : decision process overview

Decision process overview

The Chief of infrastructure takes instructions from the decision process pilot.



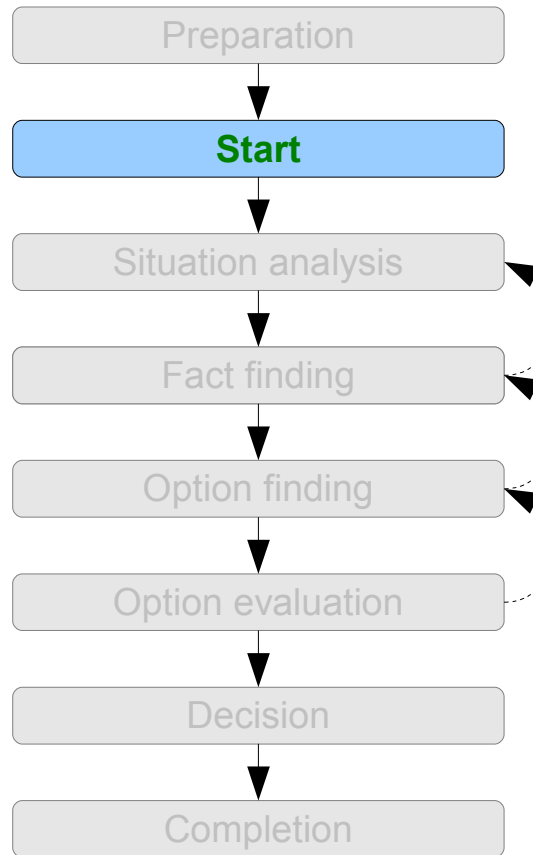
The Chief of infrastructure and his team make the **communication hub** and the **information distribution services** operational.

Fig. E.3d : decision process overview

Decision process overview

From now on until completion, all communication between key participants is published (fig. E.2k on p. 322) and archived.

All participants, including their deputies, must have signed their code of conducts.



At this point, the decision process starts officially.

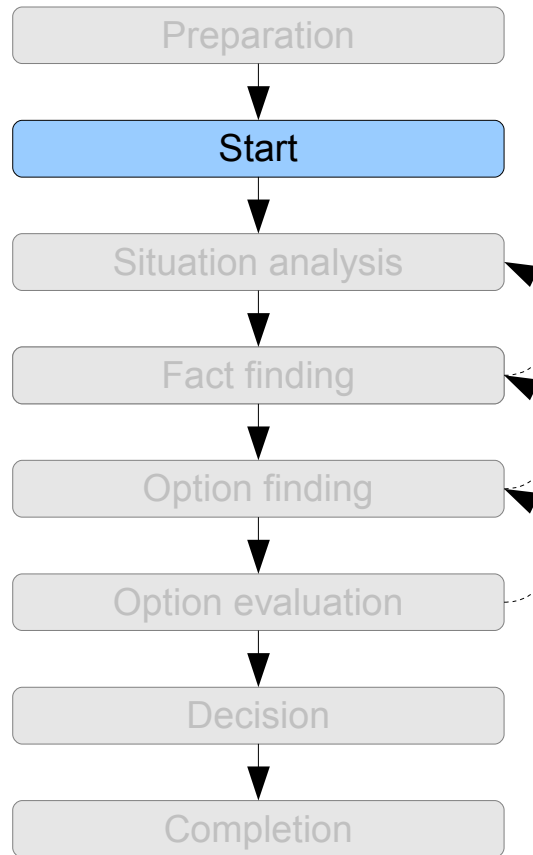
The start must immediately be publicly announced.

Fig. E.3e : decision process overview

Decision process overview

If the key participants are experienced and focused, they could reach this point in less than 1 hour (after the parties have nominated their spokespersons).

5 hours would still be good. More than 2 days would be reason for concern.



The decision process pilot will **invite advisors** (fig. E.2f on p. 317), based on the party spokespersons suggestions and own judgement.

The number of advisors should be between 3 and 10.

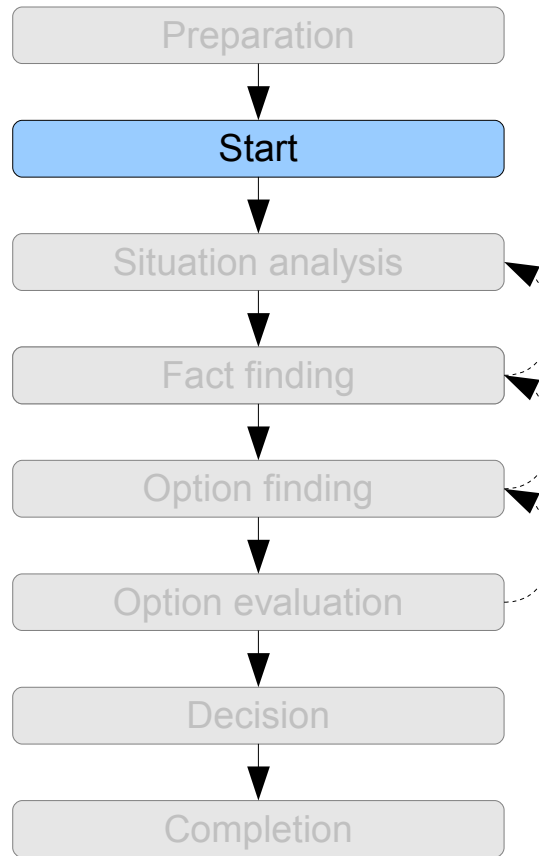
Also their spokespersons, and deputies, must agree to a code of conduct.

Fig. E.3f : decision process overview

Decision process overview

Please note that the decision process pilot has **authority and responsibility** for handling the next stages, with the exception of the 'Decision' stage.

(This may remind you again of aircraft pilots, or perhaps of maritime pilots who guide ships safely towards their destinations.)



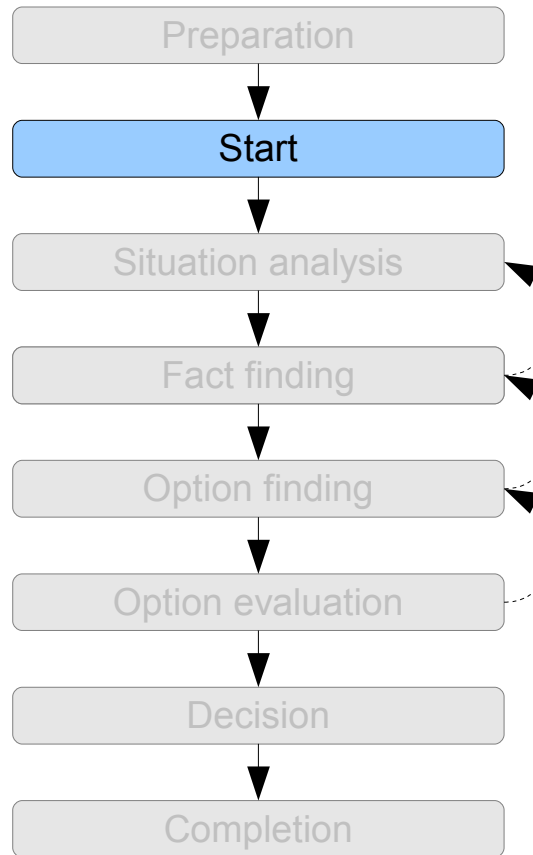
A decision maker could of course **refuse to cooperate**, thus violating the signed code of conduct **in public**.

The decision process pilot may then conclude that the quality standard is **breached**, or continue the process with the other participants.

Decision process overview

The decision process pilot will use quality standard **procedures** and **checklists** throughout the process.

On their internal arena, the decision process pilot works closely together with the **'co-pilot'** deputy and other team members (if any).

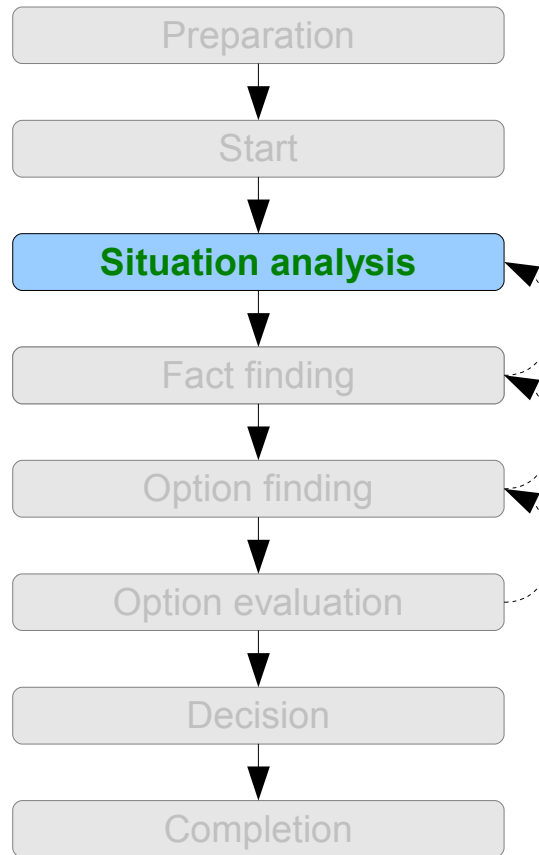


At least once per day, the decision process pilot will publish **status updates** via the information distribution services.

They provide a quick overview for citizens who don't want to read through the published communication log.

Decision process overview

The decision process pilot requests from all spokespersons their views of the situation, and compiles a brief summary.

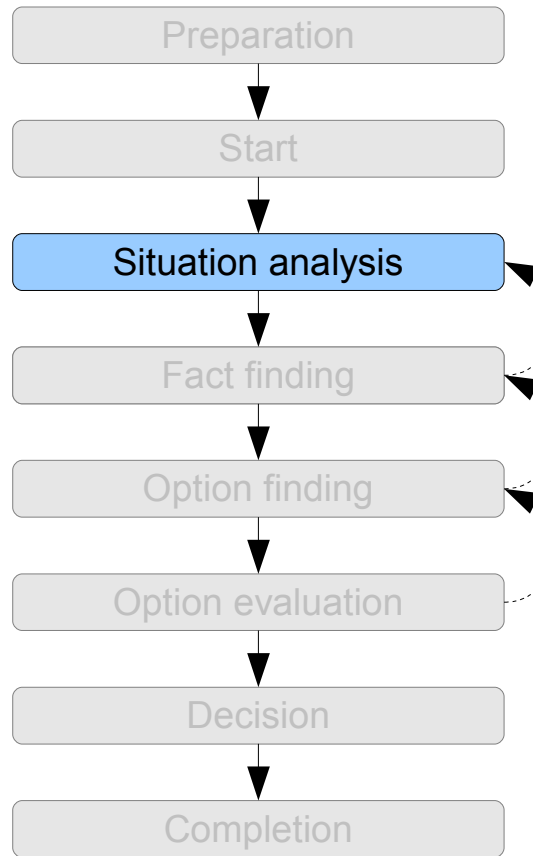


This summary must state **why** the situation needs attention, **what** the decision makers want to accomplish, and by **when** a decision must be made.

Fig. E.3i : decision process overview

Decision process overview

This stage can be completed within 1 day. More than 2 days would be reason for concern.



In case **studies** such as **risk assessments** are desired or required, they should be initiated as early as possible in the process.

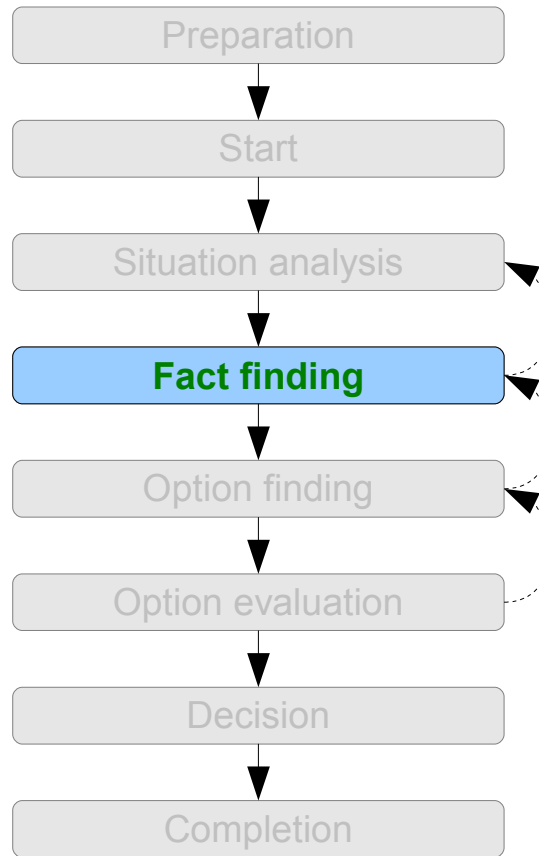
Their results must be available in time for the 'option evaluation' stage.

Fig. E.3j : decision process overview

Decision process overview

The decision process pilot compiles a **list of short factual statements**, based on the spokespersons input and own judgement.

Then all spokespersons rate their agreement with each statement.



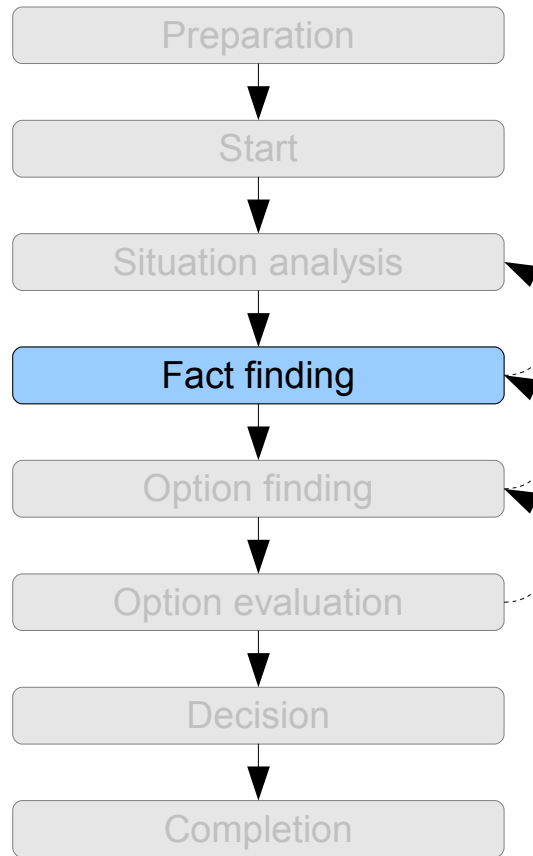
Hence it becomes clear **which facts are undisputed** and which are not.

Without this information the next stages could not be performed efficiently.

Statements and ratings are published as overview diagram.

Decision process overview

In case a participant now has a different view of the situation, the 'situation analysis' stage can be revisited for an update.



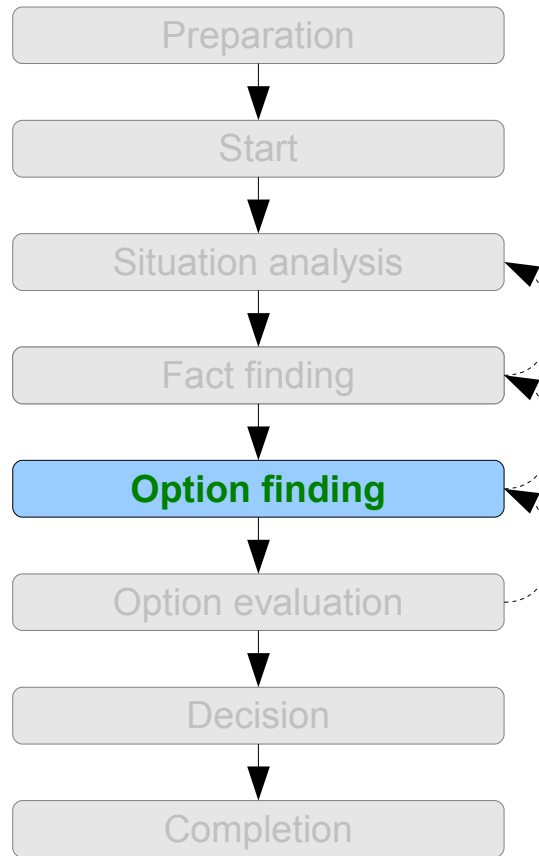
This stage can be completed within 2 days. More than 5 days would be reason for concern.

Fig. E.3I : decision process overview

Decision process overview

The decision process pilot requests suggestions from all spokespersons, and compiles a **decision option overview**.

This step normally needs to be repeated a few times. During these **iterations**, options can be modified, combined, added or eliminated.

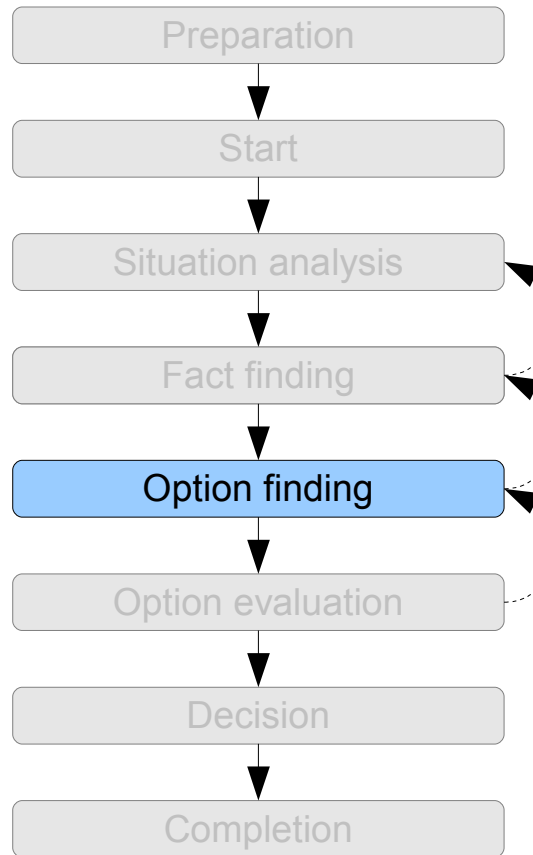


A 'maintain status quo' option must be included in the overview. It will later be evaluated just as any other option, thus serving as reference.

Fig. E.3m : decision process overview

Decision process overview

If necessary, the 'fact finding' stage could be revisited for an update.



Even in complicated situations, this stage can be completed within 5 days.

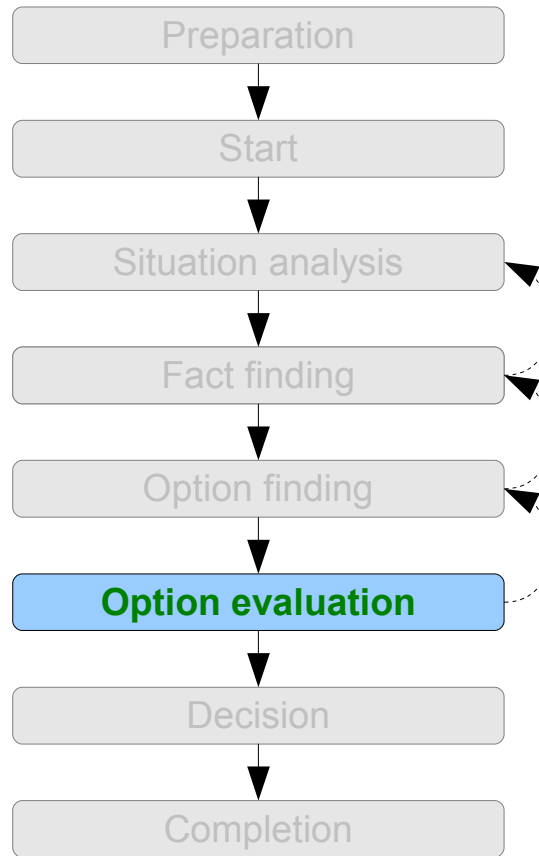
Note: that would be 35-50 working hours, for normally 10-30 key participants including deputies. Which equals 350-1500 man hours, not counting in any assistants.

Fig. E.3n : decision process overview

Decision process overview

The decision process pilot presents a **list of relevant evaluation criteria**, and requests the spokes-persons' comments.

This step normally needs to be repeated a few times. During these **iterations**, criteria can be modified, combined, added or eliminated.



However, the quality standard rules define (situation-dependent) minimum sets of **criteria that cannot be omitted**.

They ensure that the decision makers think through, and evaluate, the possible **consequences** of each viable option.

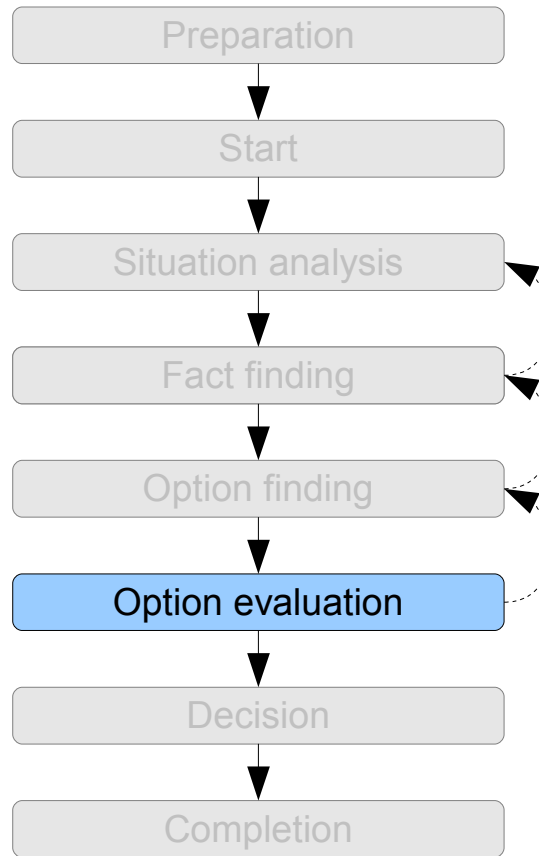
Fig. E.3o : decision process overview

Decision process overview

The decision process pilot combines the criteria list with the already existing option overview.

The developing '**multi-party decision matrix**' diagram becomes the main tool for decision support.

(Please don't let that name scare you.)



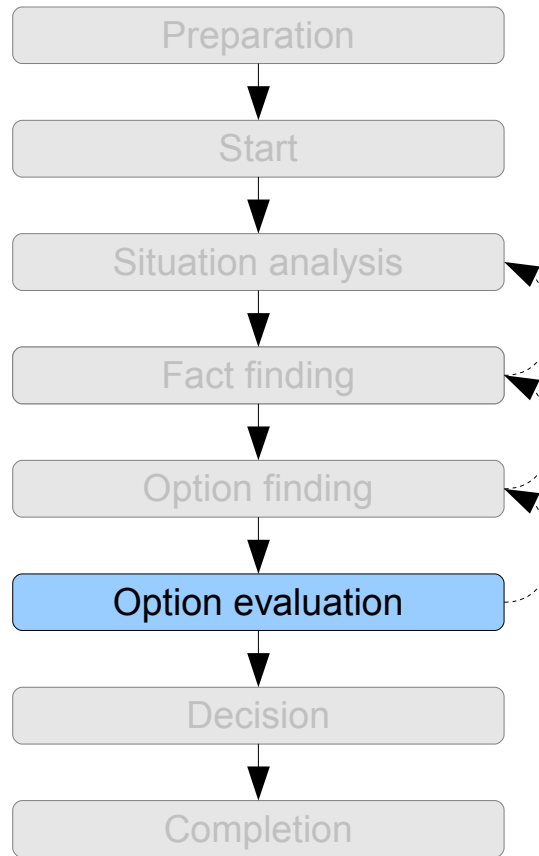
When completed, the diagram will provide a **visual comparison of all options**, and show how decision makers and advisors perceive their advantages and disadvantages.

(See appendix F, p. 356, for details and examples.)

Decision process overview

The decision process pilot requests each spokesperson to **rate** the available option/criterion combinations.

If such a combination gets a 'not acceptable' rating, the responsible spokesperson can **save time** by not evaluating this option any further.



These ratings reflect the specific **value system** of each spokesperson's party/organization.

The updated 'multi-party decision matrix' diagram then **shows which options are acceptable (or not) for the decision makers, and why.**

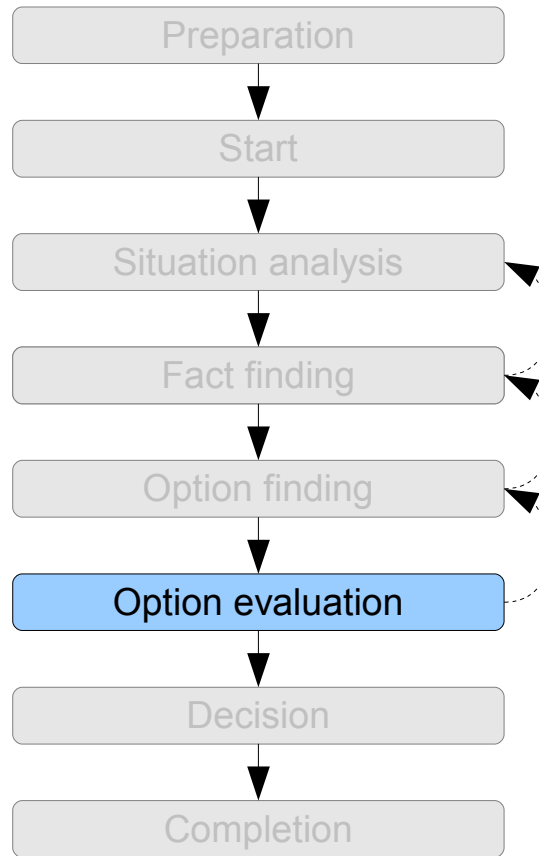
Fig. E.3q : decision process overview

Decision process overview

Note:

all this may sound very complicated. It isn't.

It boils down to that the spokespersons must answer a long series of simple questions (e.g. 'how do you rate option B's environmental impact?') ...



... using this scale:

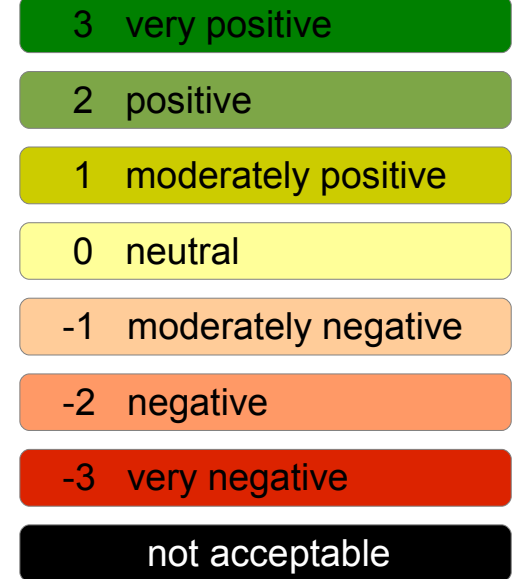
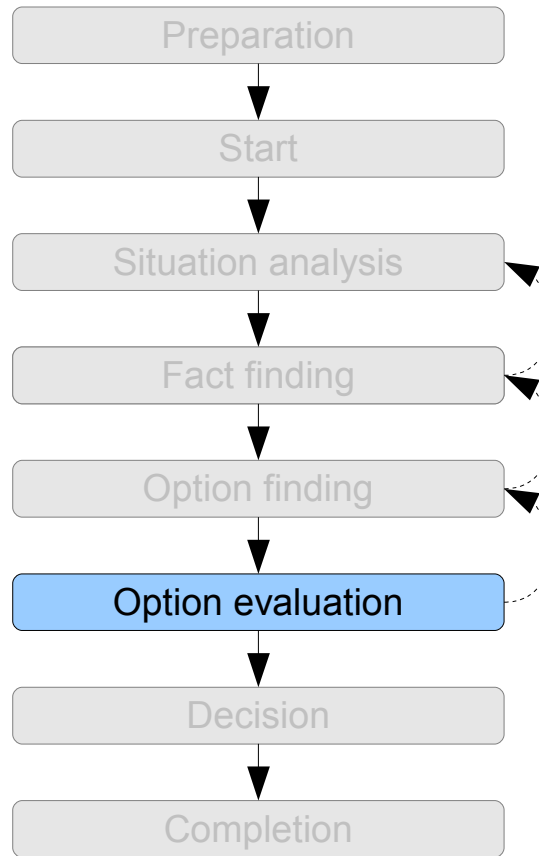


Fig. E.3r : decision process overview

Decision process overview

If necessary,
the criteria rating step
could be repeated,
and/or
the 'option finding' stage
could be revisited.

This would be the case
if no option is acceptable
to a majority of decision
makers.

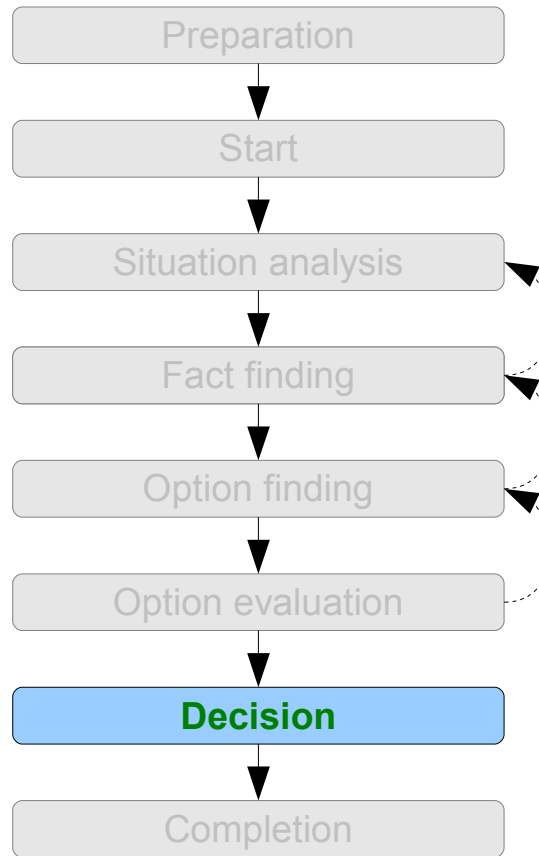


This stage can be
completed within 3 days.
More than 5 days would
be reason for concern.

Fig. E.3s : decision process overview

Decision process overview

The decision makers vote for their preferred option and reach an **official decision**.

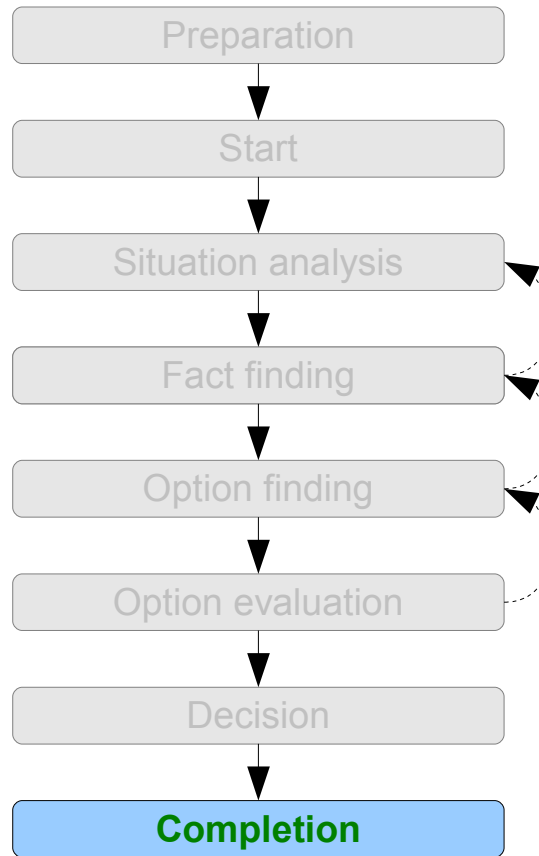


This stage can be completed within 1 day. More than 5 days would be reason for concern.

Fig. E.3t : decision process overview

Decision process overview

Each participant delivers a brief **review** of the process. All must state clearly if they regard the process as compliant with the quality standard.

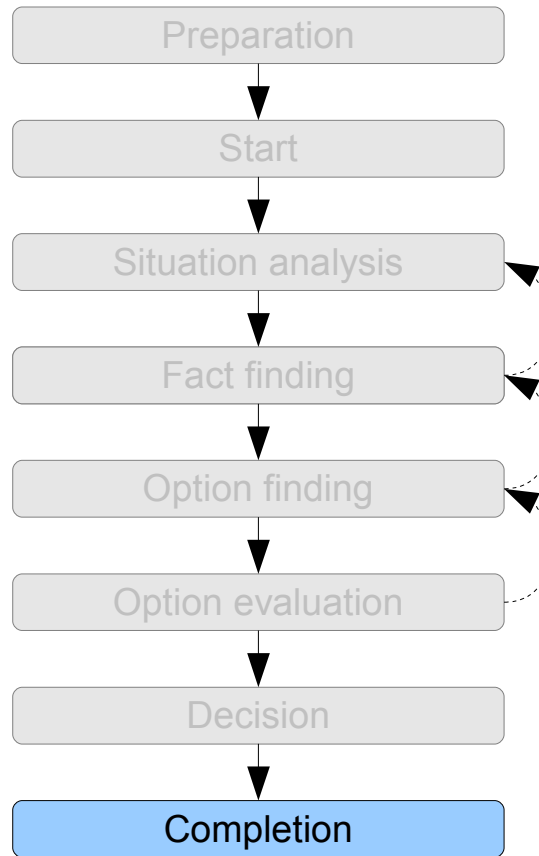


The decision process pilot and the party spokespersons **thank** the advisors for their contributions.

Decision process overview

The decision process pilot declares the process completed.

All published information must remain easily accessible for the public.



This stage can be completed within 1 day. More than 3 days would be reason for concern.

With competent key participants,
such a process can move **from
official start to reached decision
in 10-15 days.**

Even when starting unprepared, in
complicated situations, and without
taking questionable shortcuts.

Considering this, we can say that
the 'fast and efficient' requirement
is met.

As for the 'all hindering
factors must be counteracted'
requirement:

If you take a look at the overview
diagram in chapter 7 (p. 103),
you will find that all counteracting
methods have been integrated
into the process design.

Critical readers may now also want to check if the remaining requirements from the 'Design principles' section are fulfilled.

(They are.)

So that's all good in theory ...

But would it work in real life?

Many quality standard details are not defined yet. A lot depends on these details. Just as in aviation.

If a 'faulty' detail is introduced into the final quality standard, or the decision process pilot is incompetent, the process will not give good results.

If such mistakes are avoided, or corrected after some testing, then it will work in real life.

So yes, it can be done, and it would make quite a difference.
For a lot of people.

(Better decisions, less problems.)

Appendix F

How to visualize and evaluate decision options

Step by step

The 'how to' section
starts on p. 361.

Before that, there are 2 pages
about the 'why'.

In the **appendix summary** (p. 427)
you find a 1 minute description
of a 'multi-party decision matrix'.

Such a diagram is part of a
decision making process.

For information about complete
(full-scale) processes,
rather see appendix E, p. 330.

Appendix F progress

Intro **done**

Why bother? **up next**

Basic diagram

Diagram upgrades : ...
... uncertainty handling
... multi-party capability
 ... scoring
... weighted criteria
... two-step ratings

Possible mistakes

Appendix F summary

Let's assume you are facing a complex decision making situation.

Making a decision support diagram is work. Additional work, it may seem.

So **why bother?**

Because it helps you to **avoid the problems** a bad decision would cause.

This is the primary reason.

There are 4 secondary reasons on the next page.

1. Overview

Decisions made without overview over the situation produce random results. Without overview, you're partially blind. A good diagram gives overview.

2. Communication

You may want, or need, to communicate your considerations to others. A good diagram can do this very efficiently.

3. Cooperation

You may want, or need, to cooperate with others. A diagram that shows what each party thinks makes this easier.

4. Documentation

You may want, or need, to document your considerations. A good diagram can replace many, many pages of text.

Appendix F progress

Intro done

Why bother? done

Basic diagram up next

Diagram upgrades : ...
... uncertainty handling
... multi-party capability
 ... scoring
... weighted criteria
... two-step ratings

Possible mistakes

Appendix F summary

Basic diagram
(decision matrix)

	Option 1	Option 2
Criterion 1		
Criterion 2		

We start out with a basic '**decision matrix**'.

This is a table where you first arrange your decision options and your criteria as column/row headings.

(Only 2 of each are shown in this example. Normally there are many more.)

Fig. F.1a : basic diagram (decision matrix)

Basic diagram (decision matrix)

	Option 1	Option 2
Criterion 1	Rating	Rating
Criterion 2	Rating	Rating

The cells in this table (or matrix) can then be filled with your **ratings**.

A rating expresses your judgement (or evaluation) of an **option/criterion combination**.

Basic diagram (decision matrix)

	Buy 'discount price' product A	Buy 'premium edition' product B
Purchase price	affordable	quite expensive
Build quality	somewhat flimsy	good

That might look like the
example on the left.

Fig. F.1c : basic diagram (decision matrix)

Basic diagram (decision matrix)

	Buy 'discount price' product A	Buy 'premium edition' product B
Purchase price	affordable	quite expensive
Build quality	somewhat flimsy	good

But when dealing with **many** ratings, you need to use a **rating scale** instead of individual phrases (such as 'affordable').

Otherwise you will lose overview.

Rating scale

Rating :	very negative		negative		moderately negative		neutral		moderately positive		positive		very positive	
Symbol (score) :	---	(-3)	--	(-2)	-	(-1)	o	(0)	+	(+1)	++	(+2)	+++	(+3)

This scale is very useful.

3 degrees of 'positive' or 'negative' give **enough precision** in most situations, but are still **easy to handle**.

But it's not complete yet.

Rating scale

Rating :	not acceptable	very negative	negative	moderately negative	neutral	moderately positive	positive	very positive
Symbol (score) :	! (n/a)	--- (-3)	-- (-2)	- (-1)	o (0)	+ (+1)	++ (+2)	+++ (+3)

We also need a
'not acceptable' rating.

Unlike the other ratings, this one
cannot be compensated for.

It just rules out any decision
option that earns such a rating
on at least one criterion,
no matter how well the option
scores on other criteria.

Therefore use it **only** when
'very negative' is not sufficient.

Basic diagram
(decision matrix)

	Buy 'discount price' product A	Buy 'premium edition' product B
Purchase price	positive ++ (+2)	moderately negative - (-1)
Build quality	moderately negative - (-1)	positive ++ (+2)

Applying the scale to
the example from p. 364
gives us this result.

However, the benefits of
using this rating scale
become more obvious
when dealing with more
options and criteria.

Fig. F.1e : basic diagram (decision matrix)

Basic diagram
(decision matrix)

	Option 1 Description text	Option 2 Description text	Option 3 Description text	Option 4 Description text	Option 5 Description text
Criterion 1 ...	--	+	--	0	+
Criterion 2 ...	--	+	---	+	-
Criterion 3 ...	-	++	---	-	++
Criterion 4 ...	0	+++	-	0	-
Criterion 5 ...	---	+	0	!	--
Criterion 6 ...	--	0	0		0
Criterion 7 ...	---	++	+		+
Criterion 8 ...	+	+++	+		0
Criterion 9 ...	-	+	++		+
Criterion 10 ...	++	+++	+		-
Criterion 11 ...	0	0	0		0
Criterion 12 ...	+	-	++		-
Criterion 13 ...	0	--	+		--
Criterion 14 ...	0	-	++		-
Criterion 15 ...	+	--	+++		+
Criterion 16 ...	-	---	+		0
Criterion 17 ...	+	--	+++		0
Criterion 18 ...	++	+	-		++
Criterion 19 ...	+++	0	--		-
Criterion 20 ...	0	--	-		+

For instance, you could compare 5 options on 20 criteria, and yet easily **maintain overview** over all their advantages and disadvantages.

This is something you simply **could not do** without a diagram.

Fig. F.3a : basic diagram (decision matrix)

Basic diagram
(decision matrix)

	Option 1 Description text	Option 2 Description text	Option 3 Description text	Option 4 Description text	Option 5 Description text
Criterion 1 ...	--	+	--	0	+
Criterion 2 ...	--	+	---	+	-
Criterion 3 ...	-	++	---	-	++
Criterion 4 ...	0	+++	-	0	-
Criterion 5 ...	---	+	0	!	--
Criterion 6 ...	--	0	0		0
Criterion 7 ...	---	++	+		+
Criterion 8 ...	+	+++	+		0
Criterion 9 ...	-	+	++		+
Criterion 10 ...	++	+++	+		-
Criterion 11 ...	0	0	0		0
Criterion 12 ...	+	-	++		-
Criterion 13 ...	0	--	+		--
Criterion 14 ...	0	-	++		-
Criterion 15 ...	+	--	+++		+
Criterion 16 ...	-	---	+		0
Criterion 17 ...	+	--	+++		0
Criterion 18 ...	++	+	-		++
Criterion 19 ...	+++	0	--		-
Criterion 20 ...	0	--	-		+

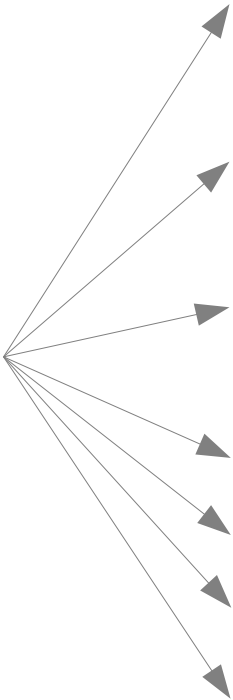
This matrix fits on a single A4/Letter-sized page, using a 10 pt font (a typical newspaper font is 8-9 pt).

Note that it was **not necessary** to evaluate option 4 any further after it was judged 'not acceptable' on one criterion.

Fig. F.3b : basic diagram (decision matrix)

Basic diagram
(decision matrix)

Categories



		Option 1	Option 2	Option 3	Option 4	Option 5
		Description text	Description text	Description text	Description text	Description text
Category 1	Criterion 1 ...	--	+	--	0	+
	Criterion 2 ...	--	+	---	+	-
	Criterion 3 ...	-	++	---	-	++
	Criterion 4 ...	0	+++	-	0	-
Category 2	Criterion 5 ...	---	+	0	!	--
	Criterion 6 ...	--	0	0		0
	Criterion 7 ...	---	++	+		+
	Criterion 8 ...	+	+++	+		0
Category 3	Criterion 9 ...	-	+	++		+
	Criterion 10 ...	++	+++	+		-
	Criterion 11 ...	0	0	0		0
	Criterion 12 ...	+	-	++		-
Category 4	Criterion 13 ...	0	--	+		--
	Criterion 14 ...	0	-	++		-
Category 5	Criterion 15 ...	+	--	+++		+
	Criterion 16 ...	-	---	+		0
Category 6	Criterion 17 ...	+	--	+++		0
	Criterion 18 ...	++	+	-		++
Category 7	Criterion 19 ...	+++	0	--		-
	Criterion 20 ...	0	--	-		+

When dealing with many criteria (or options), it is usually helpful to group them by category.

Examples of criteria categories:
finance, workload, quality of life, ethics, environment, compliance, effectiveness, feasibility, short-term, long-term.

Fig. F.3c : basic diagram (decision matrix)

The diagrams shown are
easy to make, and
easy to explain to others.

They are the right choice if
simplicity is paramount
(and only then).

On the next pages,
we develop the decision matrix
concept further.

These diagrams can do things
the basic ones can't.

Appendix F progress

Intro done

Why bother? done

Basic diagram done

Diagram upgrades : ...
... uncertainty handling up next
... multi-party capability
... scoring
... weighted criteria
... two-step ratings

Possible mistakes

Appendix F summary

When you work with your ratings, you will sometimes feel **uncertain** about how to rate an option/criterion combination.

This might happen because you do **not have enough information** to give a precise rating, or because you want your rating 'somewhere between' two rating levels.

With a little upgrade, a decision matrix diagram can handle such uncertainties.

This does not only make the rating work easier, it also **adds very valuable information** to the diagram.

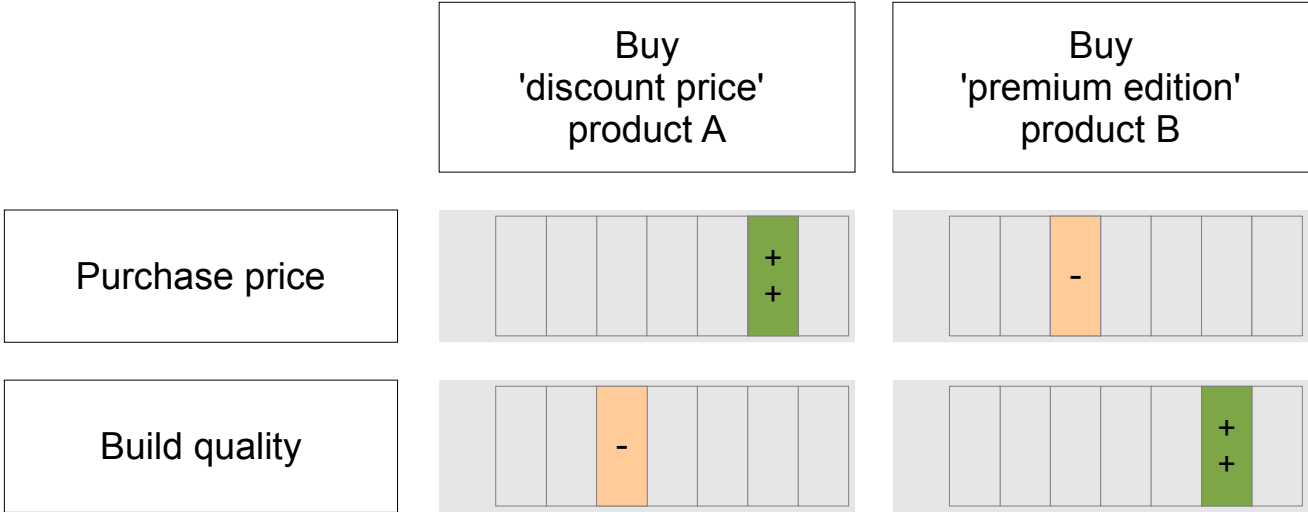
Basic diagram (decision matrix)

	Buy 'discount price' product A	Buy 'premium edition' product B
Purchase price	positive ++ (+2)	moderately negative - (-1)
Build quality	moderately negative - (-1)	positive ++ (+2)

We have seen this
example before.

But now let's
change the layout of the
rating cells ...

Uncertainty handling



... to this format.

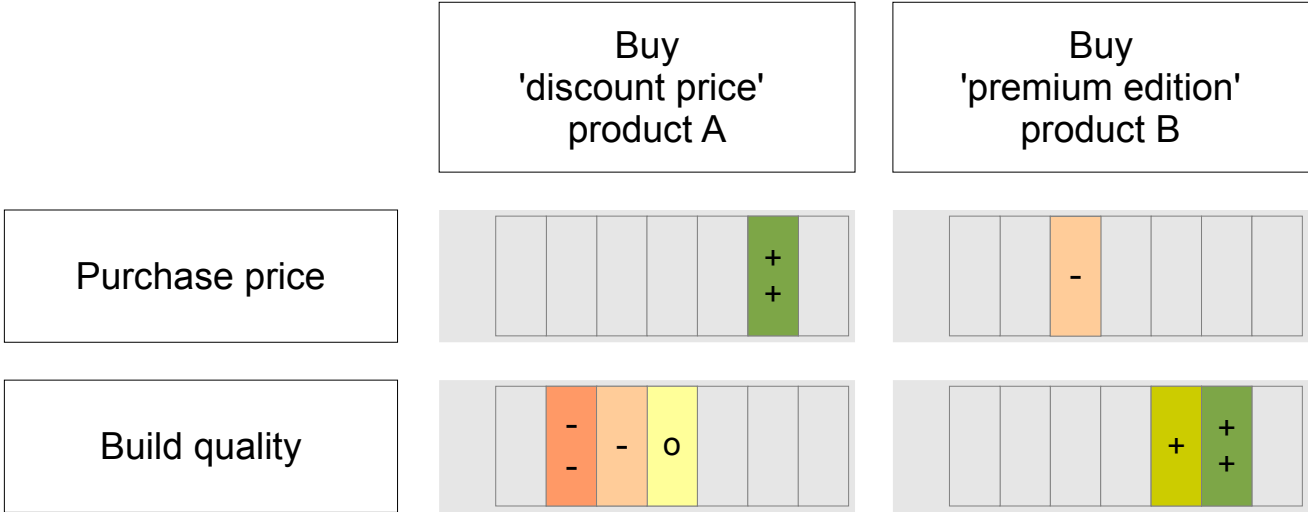
There is made room
for a whole rating scale
in each cell.

The chosen ratings are
marked on the scale.

But it is now possible
to mark more than one
rating level.

Fig. F.4a : uncertainty handling

Uncertainty handling



In this example, you are certain in your judgement of the purchase price, but uncertain about the build quality.

Product A's build quality appears more uncertain (and worse) than product B's.

Fig. F.4b : uncertainty handling

Uncertainty handling



A full A4/Letter page example could look like this.

(It's an upgraded version of the p. 369 diagram.)

Fig. F.4c : uncertainty handling

A natural consequence
of uncertainty are
'worst case' / 'best case'
scenarios.

More about this later
in the 'scoring' section.

Appendix F progress

Intro done

Why bother? done

Basic diagram done

Diagram upgrades : ...

... uncertainty handling done

... multi-party capability up next

... scoring

... weighted criteria

... two-step ratings

Possible mistakes

Appendix F summary

The previous diagrams
were designed for a single
decision maker.

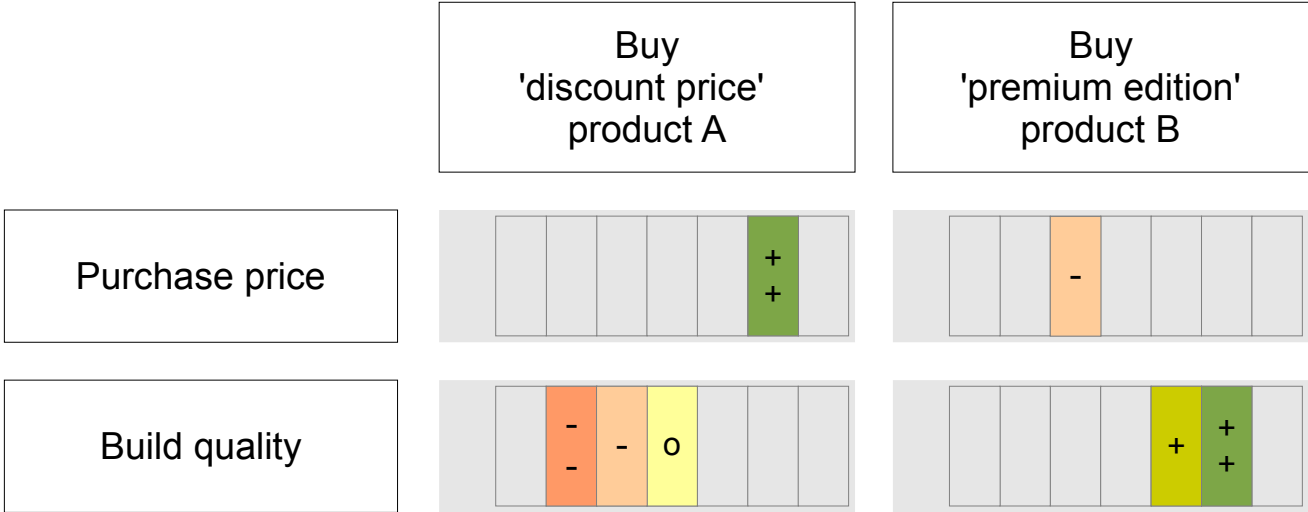
But often there are more decision
makers (and/or advisors) involved.

They will agree on some matters,
and disagree on others.

Making all views clearly visible
is in the interest of **transparency**
and good decision making.

The upcoming
'multi-party decision matrix'
is designed to do that.

Uncertainty handling



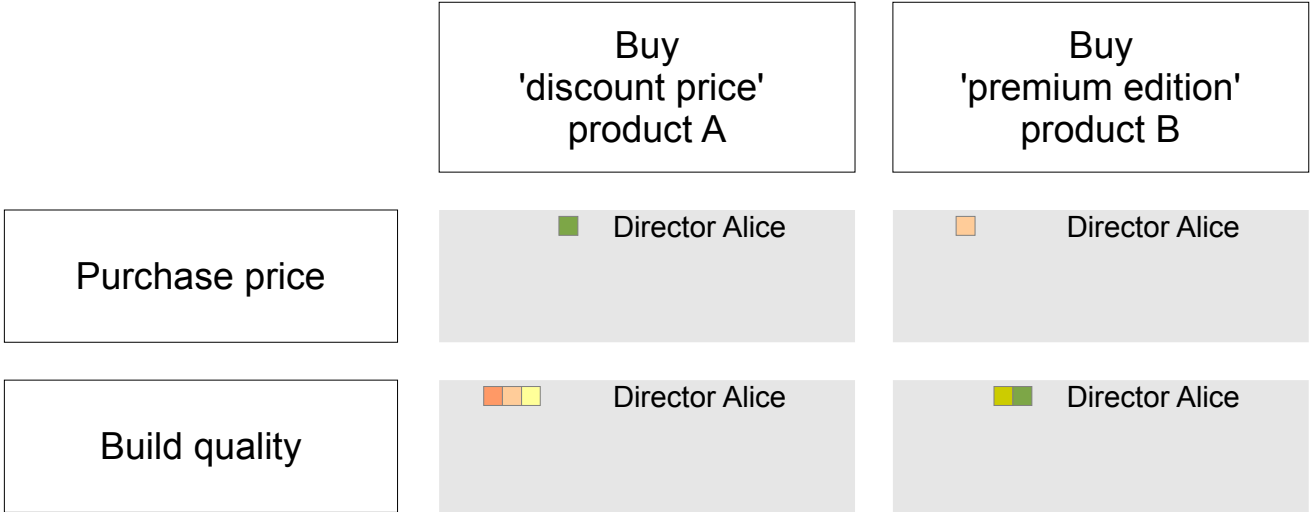
Back to our example.

Let's say the shown ratings are Alice's.

But now she wants to see other opinions ...

Fig. F.4d : uncertainty handling

Multi-party capability

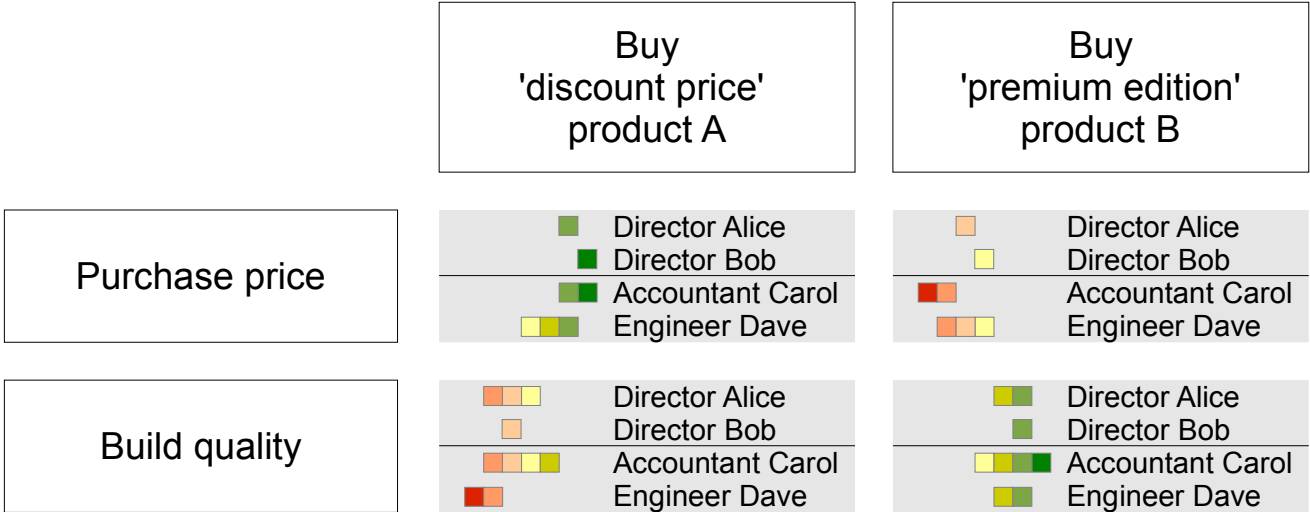


... so we change the layout of the rating cells once more.

Alice's ratings are still there, but now there is room for more.

Fig. F.5a : multi-party capability

Multi-party capability

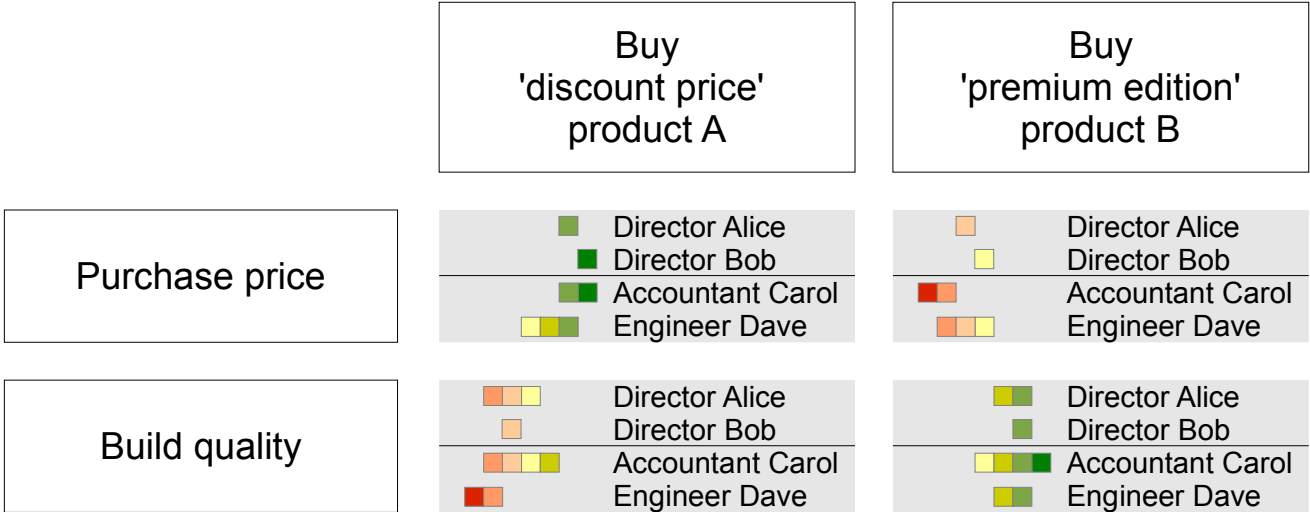


3 other parties were asked for their views, and the diagram shows these.

Hence the (maybe awkward but descriptive) term **multi-party decision matrix** for this kind of diagram.

Fig. F.5b : multi-party capability

Multi-party capability

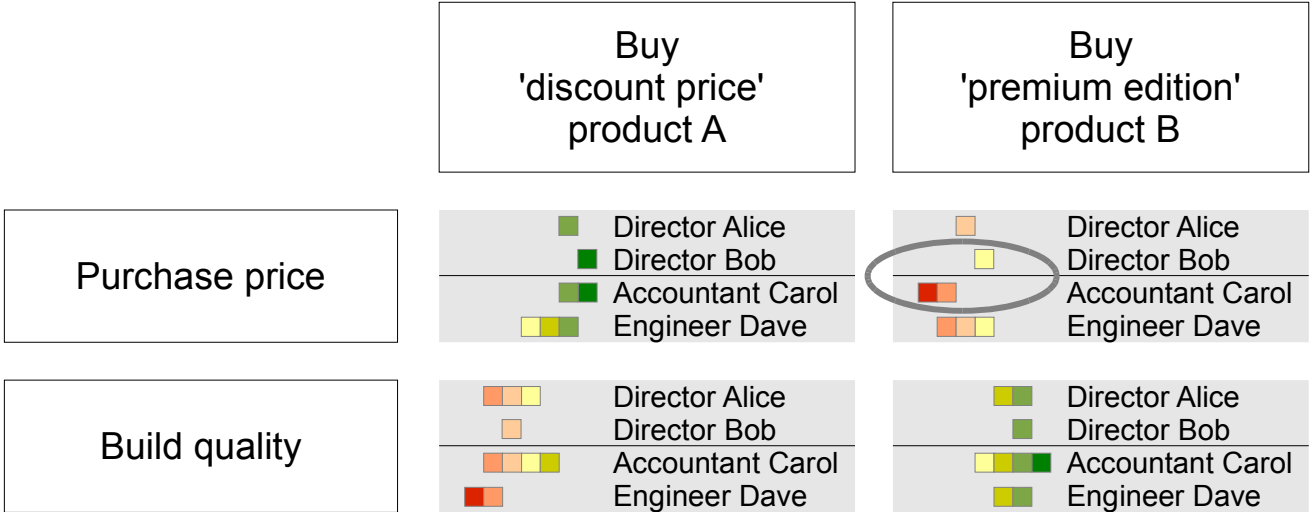


Note the black lines separating the **decision makers** from the **advisors**.

Please take a moment to examine the ratings.

Fig. F.5c : multi-party capability

Multi-party capability

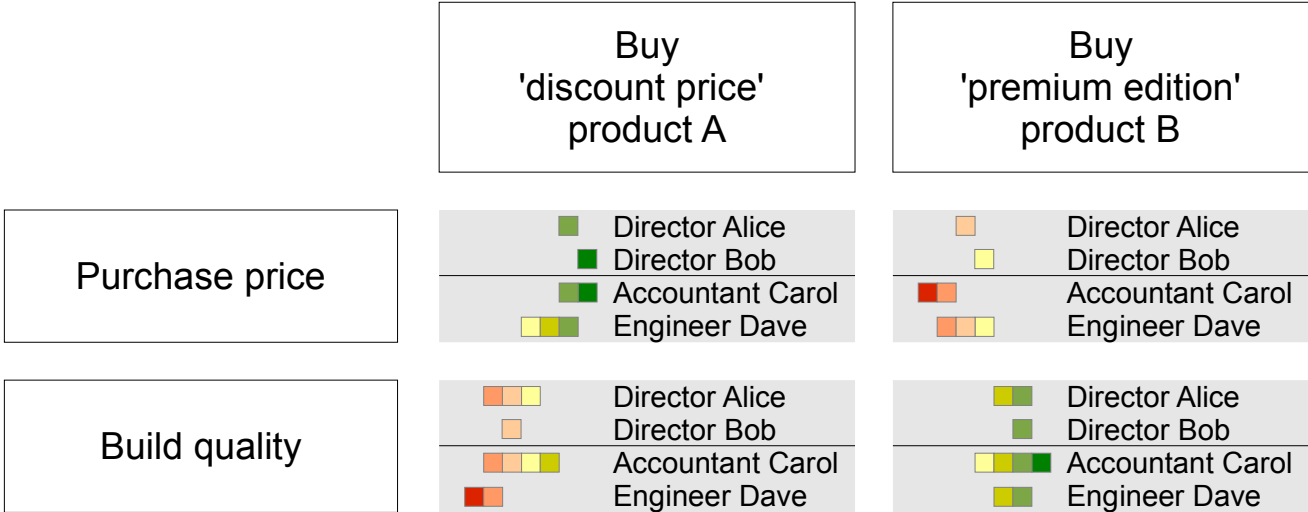


You will notice (for instance) that:

- there are no major disagreements, except the marked one
- nobody uses a 'not acceptable' rating

Fig. F.5d : multi-party capability

Multi-party capability

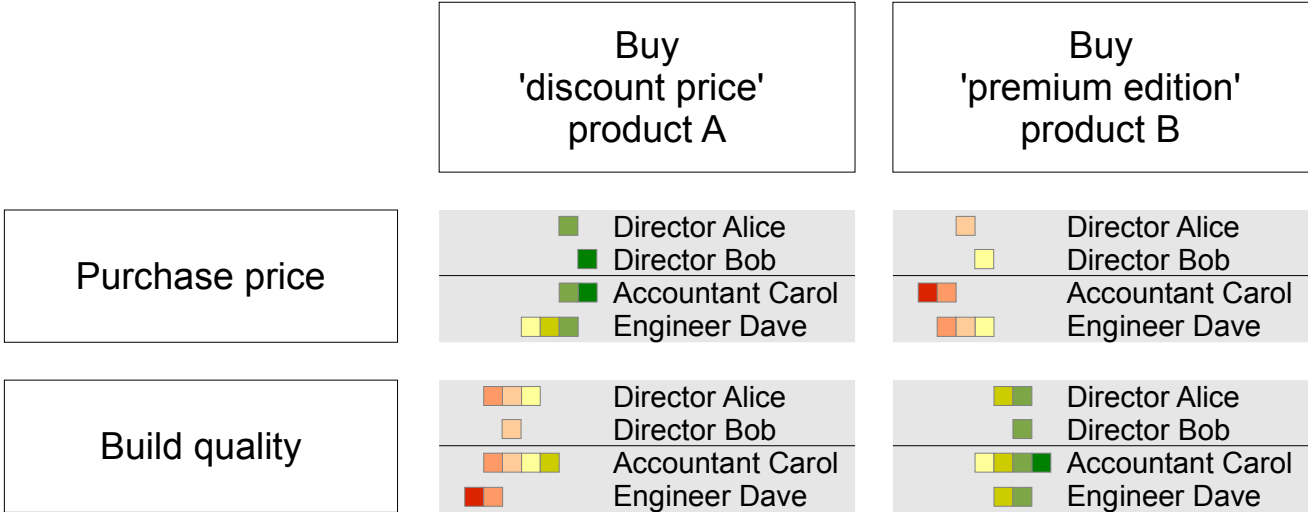


- Bob is certain about everything

(does he have more information? Or more self-confidence?)

Fig. F.5e : multi-party capability

Multi-party capability

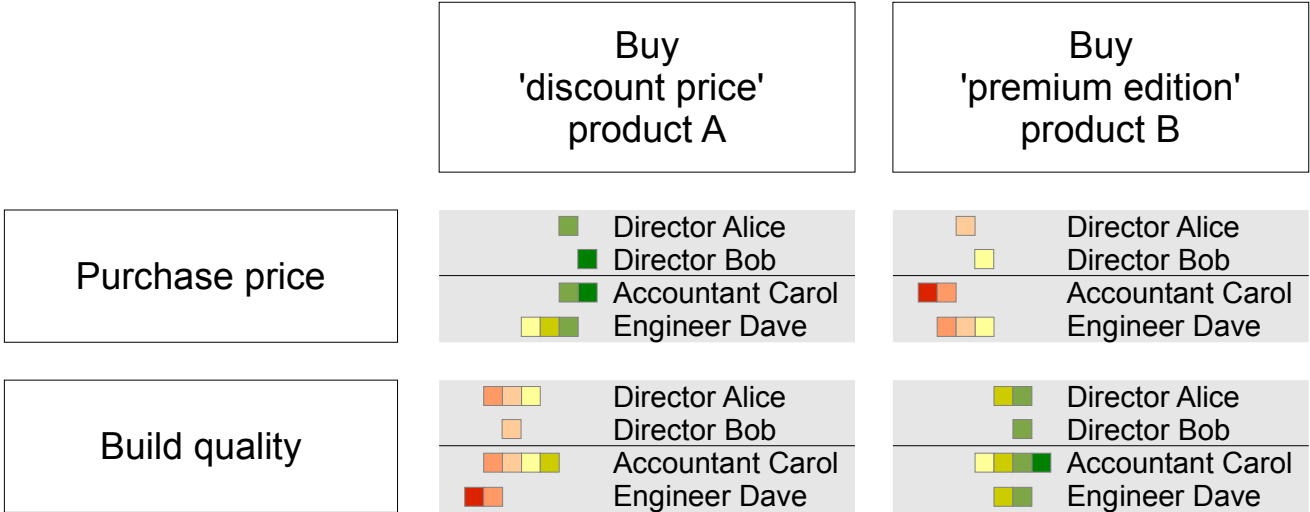


- Carol has no strong opinion about build quality

(that is good judgement if she's no expert)

Fig. F.5f : multi-party capability

Multi-party capability



- Dave really doesn't like product A's build quality

(which should get the decision makers' attention, because he is their expert for that)

Fig. F.5g : multi-party capability

Some notes
regarding practical aspects:

- of course you can put more than 4 parties' ratings in each cell (up to 10: no problem, more than 15: think twice)
- making such diagrams takes time. But far less time than having several parties writing their own reports. You can **skip the report writing** if you use a diagram (no need for both)

- let each party do their ratings independently. They should not see each other's ratings until these are complete

- if you don't want to make diagrams yourself, you could **delegate** this task to someone (trustworthy, willing and competent) else

- information about full-scale decision making processes is in appendix E, p. 330

Appendix F progress

Intro done

Why bother? done

Basic diagram done

Diagram upgrades : ...

... uncertainty handling done

... multi-party capability done

... scoring up next

... weighted criteria

... two-step ratings

Possible mistakes

Appendix F summary

'Calculating a numerical score
for each decision option
often helps to find the best option.'

Is that true?

Not quite. Looking at a
single score (per option) can be
very misleading. Because single
scores imply that all options
come without (or with the same)
uncertainty or risk attached. And
that is usually wrong.

Therefore, at least 2 scores
(per option) are required:
one for the '**worst case**',
one for the '**best case**' ratings.

A 3rd score for '**average**' is
nice to have.

These 3 scores **combined** often
do help to find the best option.

Scoring



According to Alice, the **worst case score** for this option is 0.0

Purchase price: +2 (■)
Build quality: -2 (■)

0

0 divided by 2 criteria = 0.0

Fig. F.6a : scoring

Scoring



According to Alice, the **best case score** for this option is 1.0

Purchase price: +2 (■)
Build quality: 0 (■)

2

2 divided by 2 criteria = 1.0

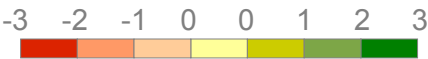
Fig. F.6b : scoring

Scoring



The average of her worst/best case scores is 0.5

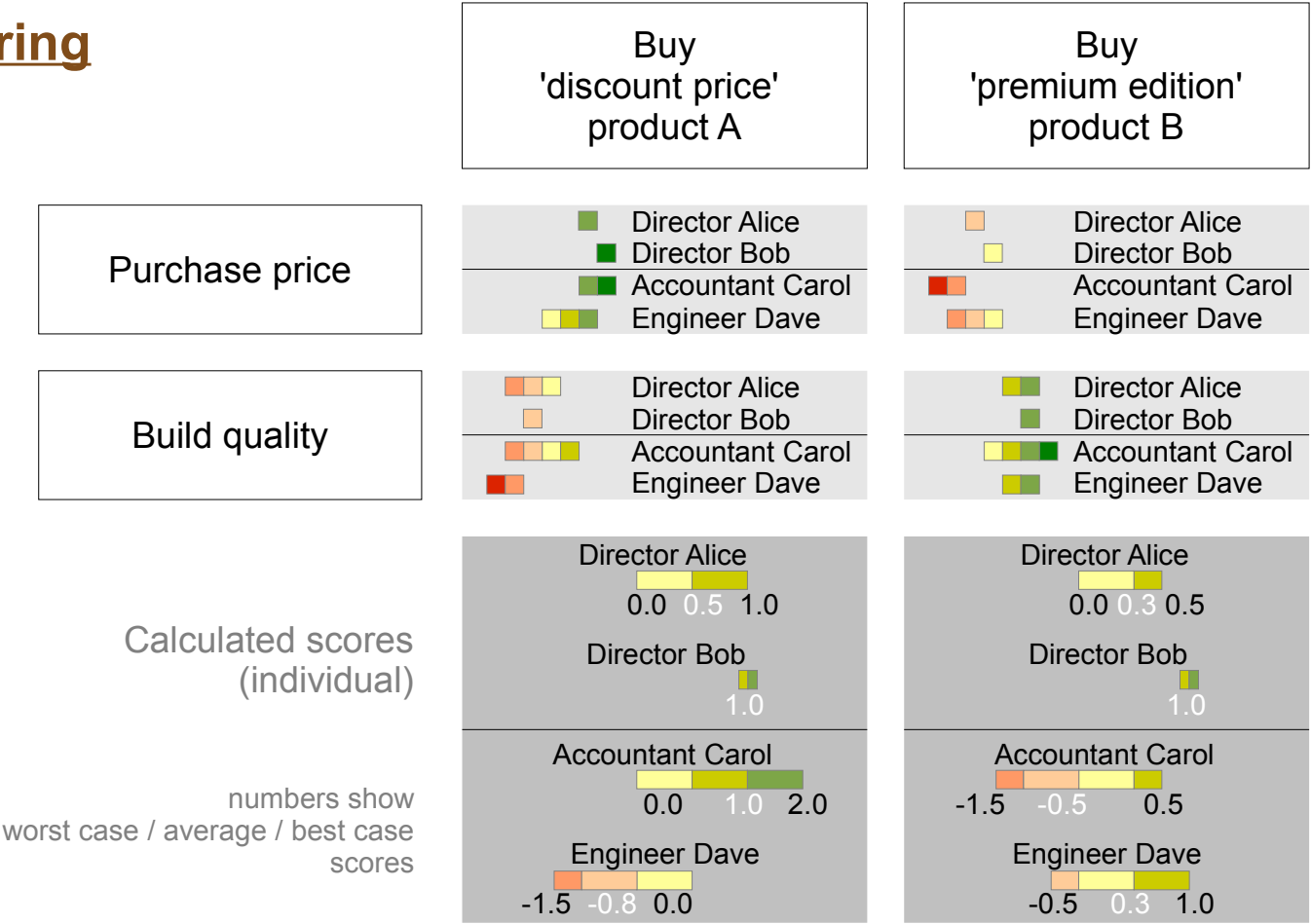
These numbers are mapped to a graphical scale:



(where 0 is exaggerated)

Fig. F.6c : scoring

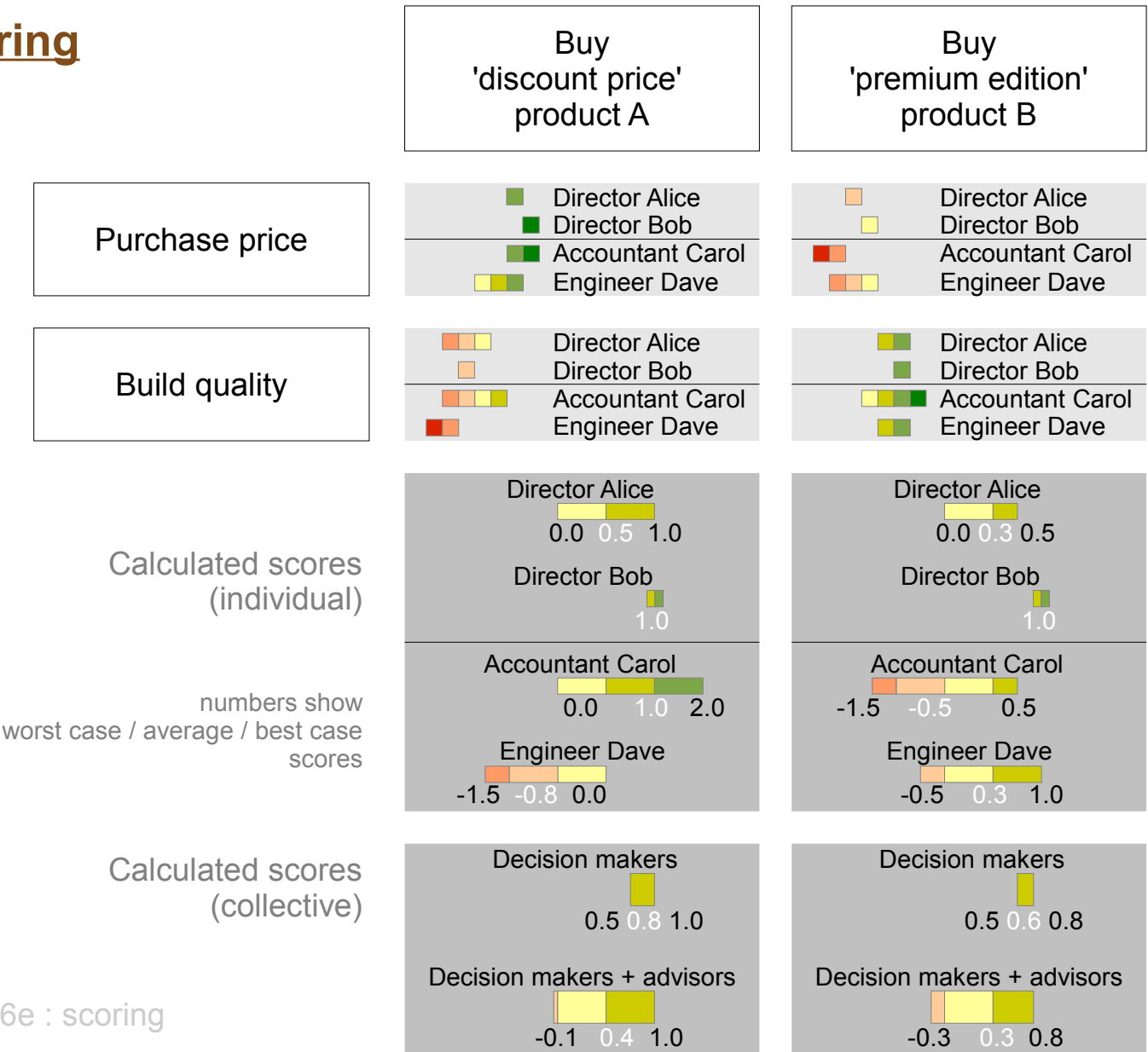
Scoring



This is how it looks after
processing all ratings.

Fig. F.6d : scoring

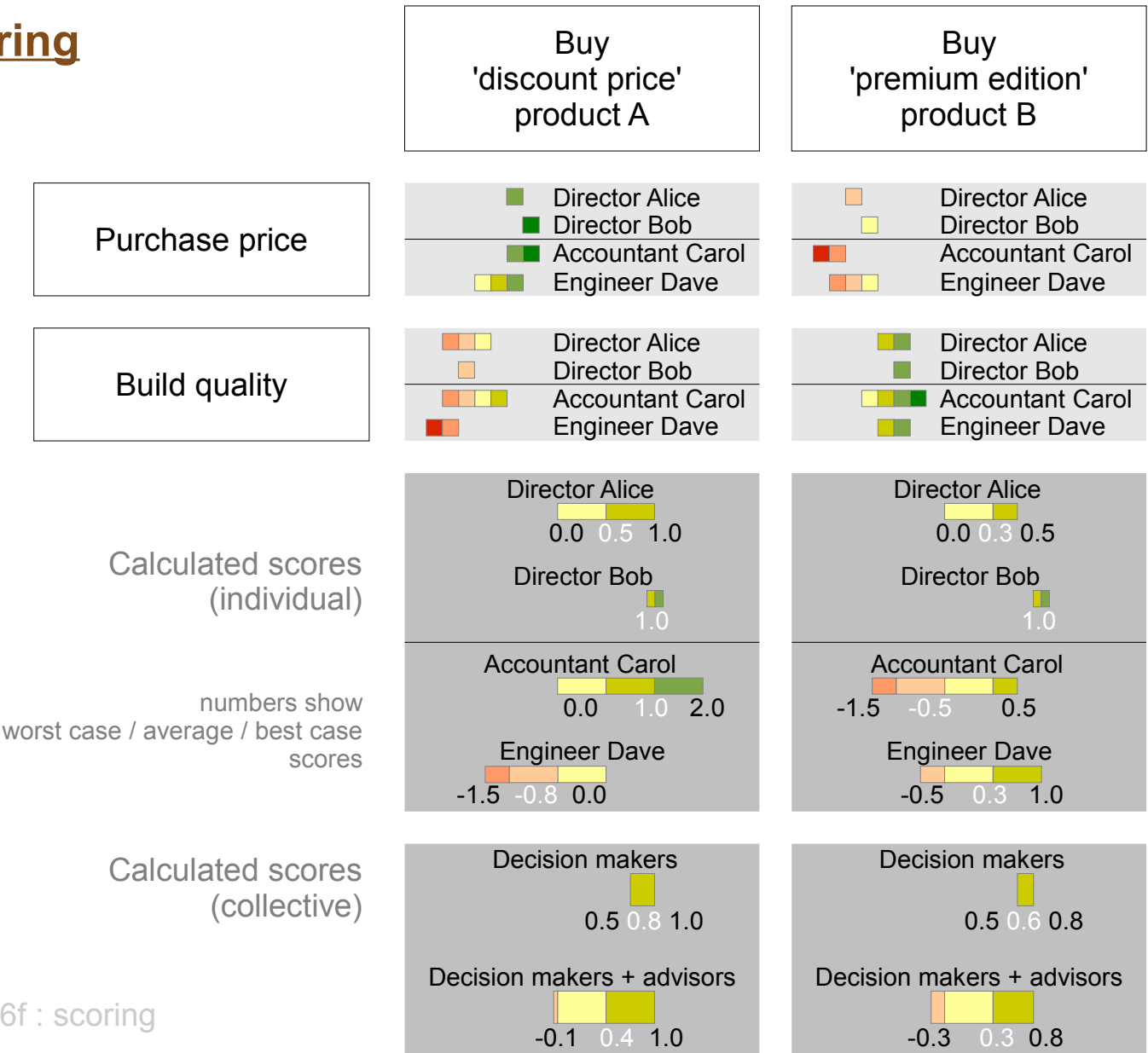
Scoring



Finally,
the individual scores
are merged (averaged)
into collective scores.

Fig. F.6e : scoring

Scoring

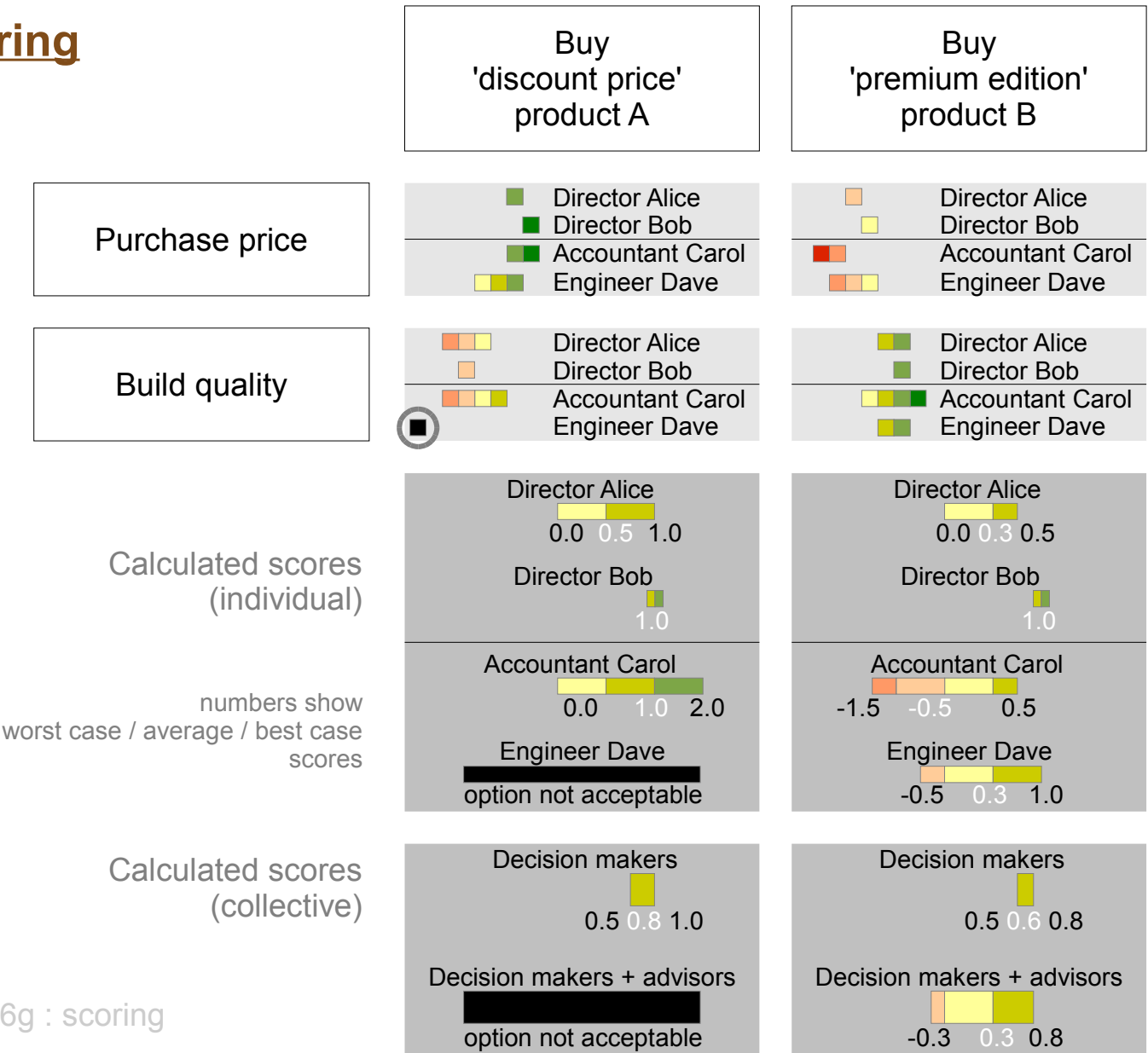


The collective scores tell us mainly that:

- the product A option has a slight advantage, both in worst and best case scores
- both options are acceptable

Fig. F.6f : scoring

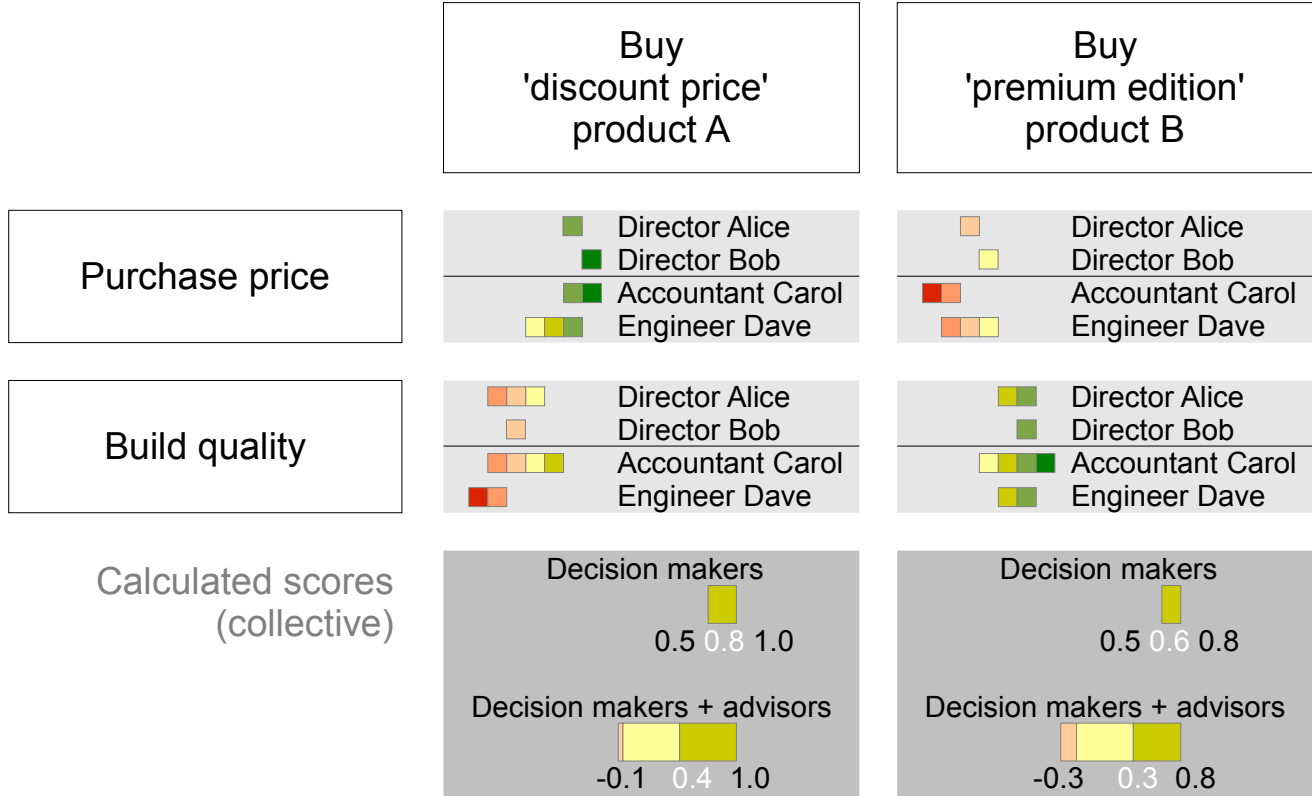
Scoring



Note:
If Dave would have rated product A's build quality 'not acceptable', the scores would look like this.

Fig. F.6g : scoring

Scoring



When presenting such a matrix to an inexperienced audience, consider to:

- first show (explain) the matrix without scores
- then show it with added collective scores (example to the left)
- then show the individual scores

Fig. F.6h : scoring

Would **you** prefer to buy product B,
despite its slightly worse scores?

In that case, your judgement
may partly be **based on criteria
not included** in the example
(e.g. 'total cost of ownership'
or 'user experience').

Or perhaps the 'build quality'
criterion is **more important** for you
than the 'purchase price' criterion.

This leads us to the next section.

Appendix F progress

Intro	done
Why bother?	done
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Often some criteria appear as more, some as less important than others.

Their perceived importance depends on how well they align with the observer's **value system** (see chapter 3, p. 35).

This implies that only people with similar value systems tend to agree on what is 'important'.

A decision support tool, e.g. a multi-party decision matrix, should allow (not force) each party to attach individual '**weights**' to each criterion.

There are 3 different ways of doing this.

1. criteria selection

Example: if you have 5 criteria in the 'finance' category and 2 in 'environment', 'finance' weighs much more than 'environment'.

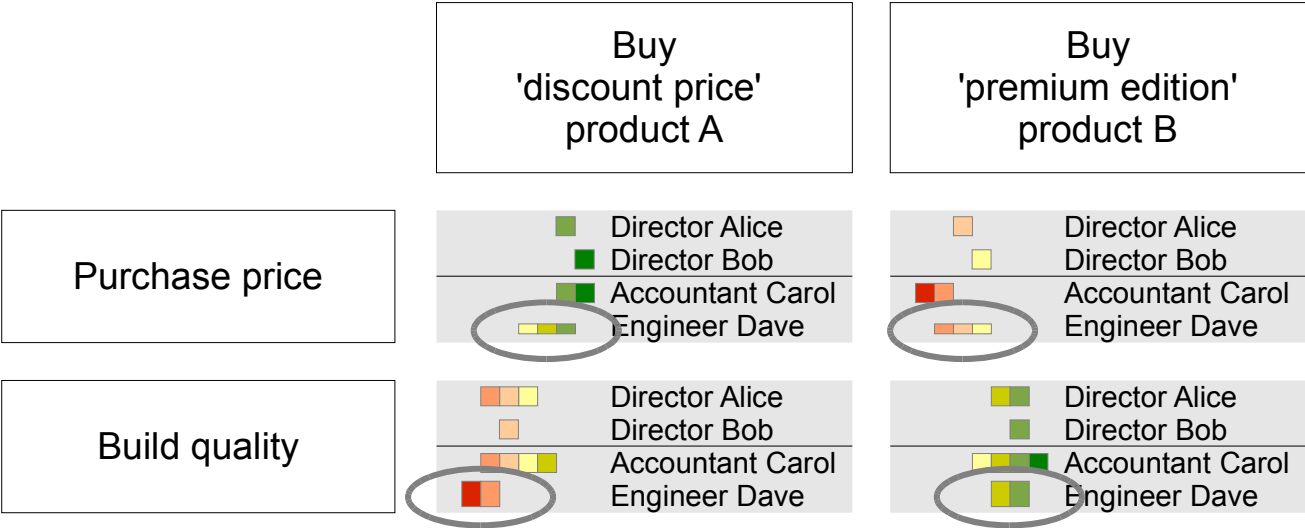
2. judgement (rating) bias

Example: 'build quality' is very important for Dave. Hence he judges this criterion very critically, and expresses that in his ratings.

3. numerical weights

A numerical weight is a factor applied to a criterion score, to make it count more/less in the total score.

Numerical/visual weights



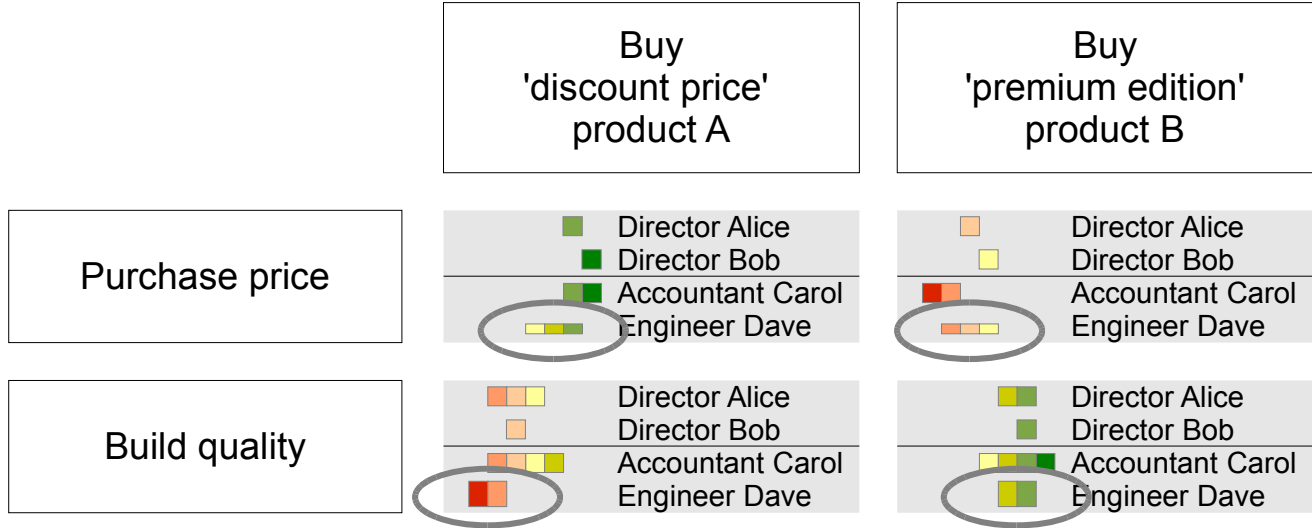
With only one party (Dave) using numerical weights, the diagram looks like this.

Numerical **weight** and visual block **height** are proportional.

Even without ever talking to Dave, you can directly **see** what he finds important.

Fig. F.7a : numerical/visual weights

Numerical/visual weights



Dave weighted 'build quality' up, from default 100% to 150%.

He also weighted 'purchase price' down, from 100% to 50%.

For simplicity, only these weights are allowed:

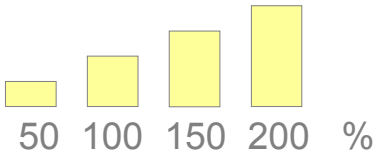
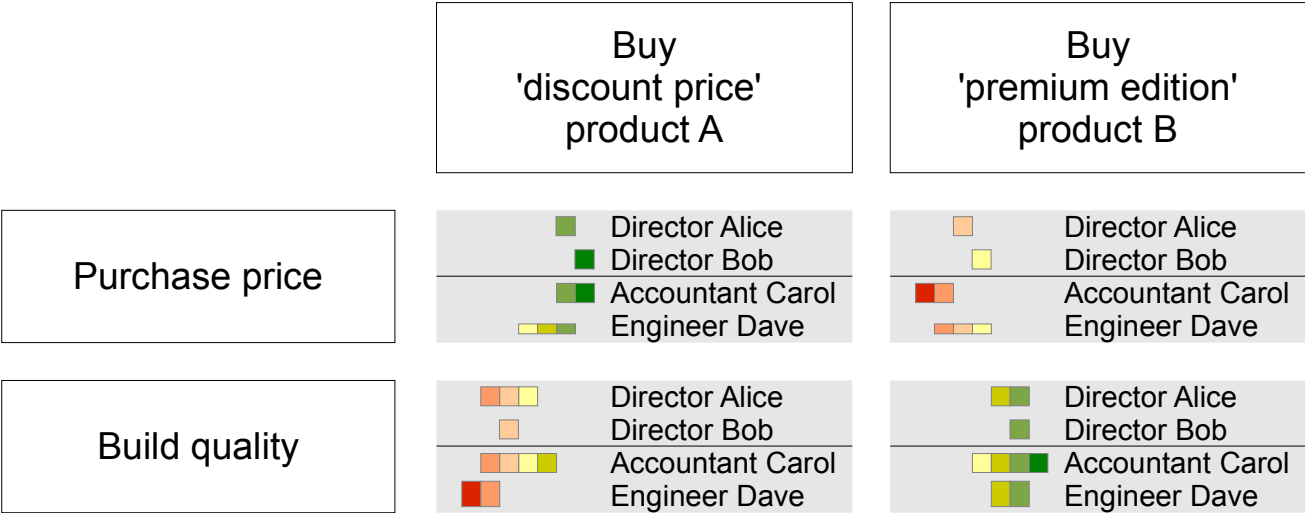


Fig. F.7b : numerical/visual weights

Numerical/visual weights

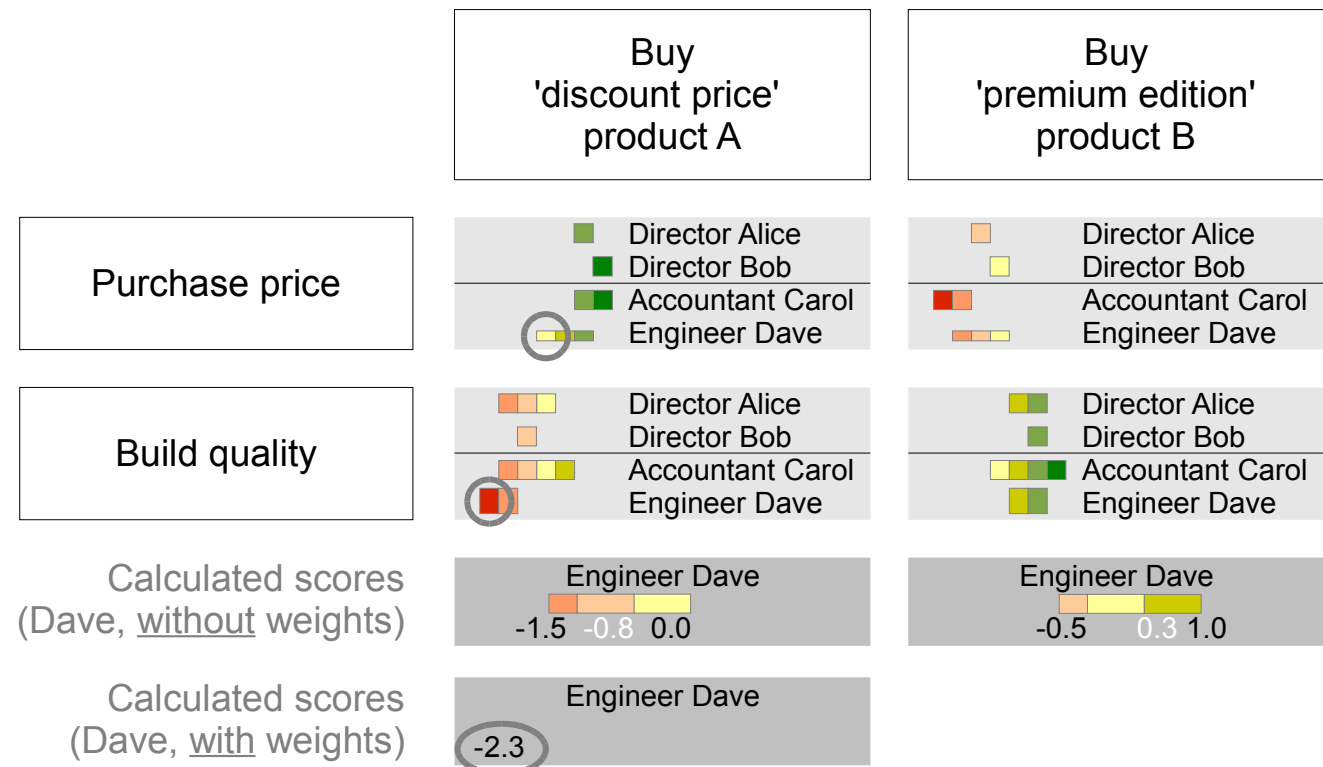


As a rule, weight can only be **shifted** between criteria (instead of just **added**). For instance, a party 'giving' extra 100% to one criterion must 'take' 2x 50% from other criteria.

(Otherwise score calculations become meaningless.)

Fig. F.7c : numerical/visual weights

Numerical/visual weights



Dave's new **worst case score** for the product A option is -2.3

Purchase price: 0 x 0.5 () = 0.0
Build quality: -3 x 1.5 () = -4.5

-4.5

-4.5 divided by 2 criteria = -2.25 (-2.3)

Fig. F.7d : numerical/visual weights

Numerical/visual weights

Because of the shifted weight, 'build quality' dominates Dave's new scores very clearly.

With more criteria in the matrix, shifted weights have a less dramatic impact on scores.

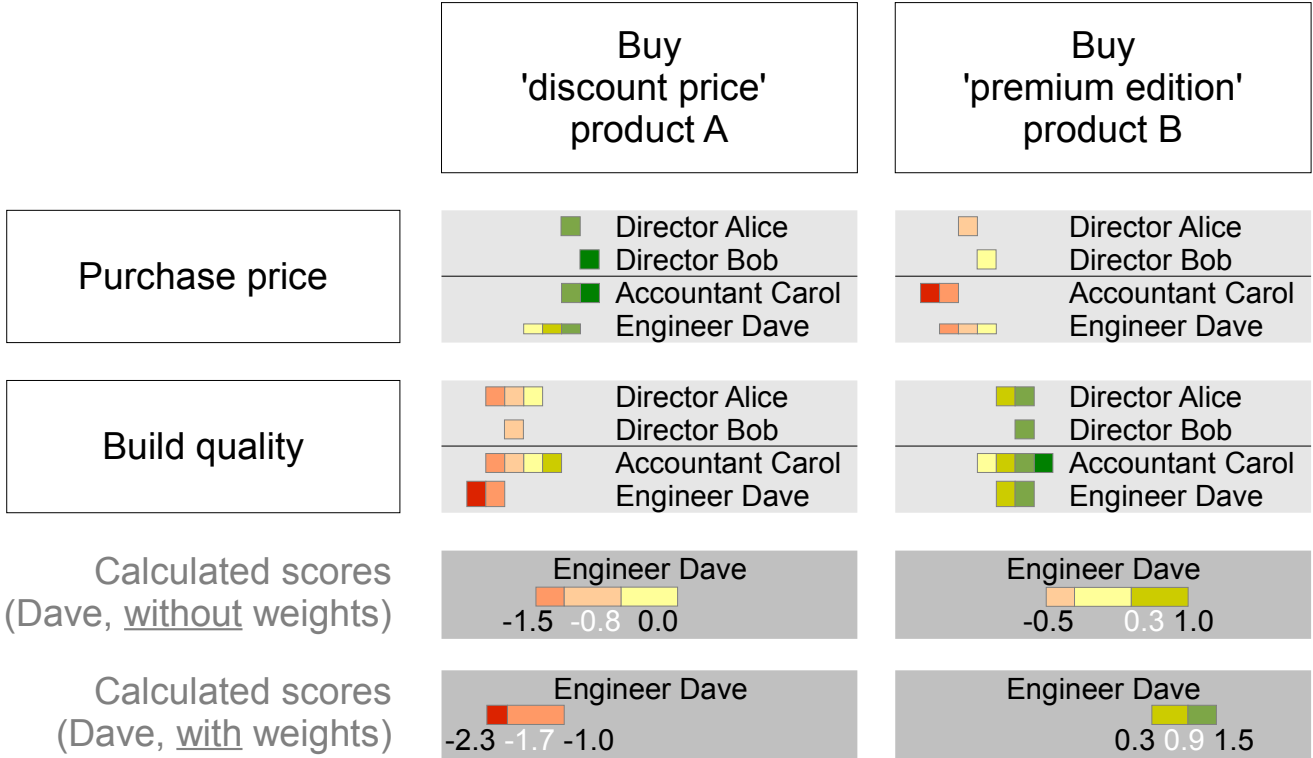


Fig. F.7e : numerical/visual weights

Note:

All parties should complete their ratings **before** considering to shift weights between criteria.

For instance, if there is only one acceptable option left, there is no need for weighting (nor for scoring).

Appendix F progress

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Assuming that option set and criteria were chosen carefully, the final **decision quality** depends heavily on how accurate the ratings are.

Letting multiple parties do their ratings **independently** already reduces the impact of individual rating errors.

But there is another way to increase both rating **accuracy** and **transparency**.

The trick is to divide the rating evaluations into two steps.

Example: single-step rating

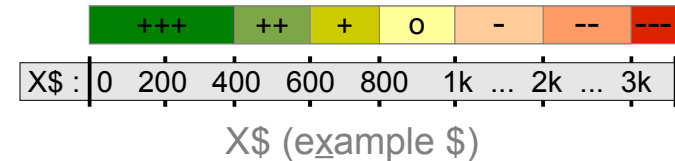
'I give the purchase price of product A a positive (++) rating'

Note:

If I base my rating on a wrong purchase price, nobody else can see my error. This is both an accuracy and transparency issue.

Example: two-step rating

1. 'This is how I rate these purchase prices'



2. 'For product A, I expect a purchase price of 500 X\$'

This results in a positive (++) rating.

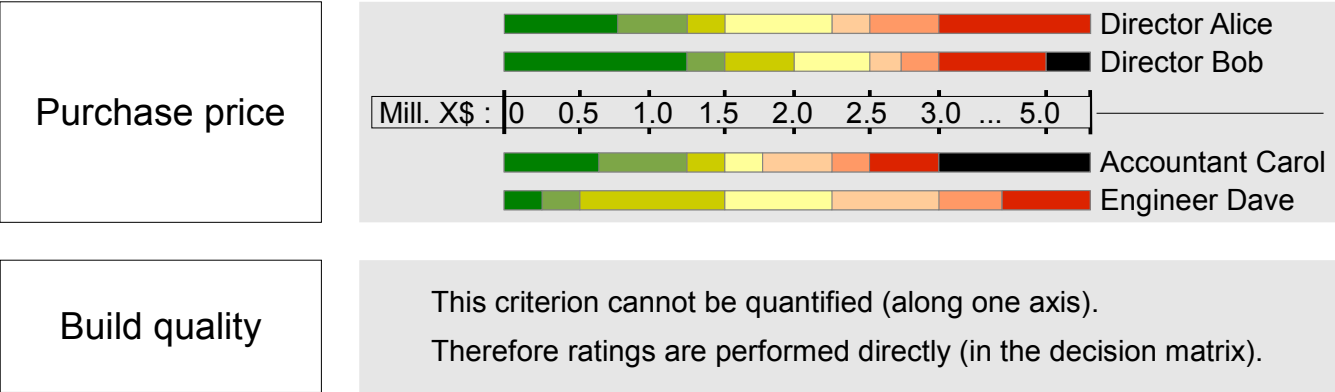
Single-step ratings are often less accurate, mostly because they are easily 'contaminated' by other criteria.

For instance, the decision maker may rate **the same** purchase price as **positive** (++) for a well built product, but as **negative** (--) for a poorly built product.

This is intuitive but wrong, because 'build quality' judgements belong to that criterion, not to the 'purchase price' criterion.

Two-step ratings make it easy to **avoid this kind of confusion**, and to **spot wrong assumptions**.

Two-step rating baselines (multi-party)



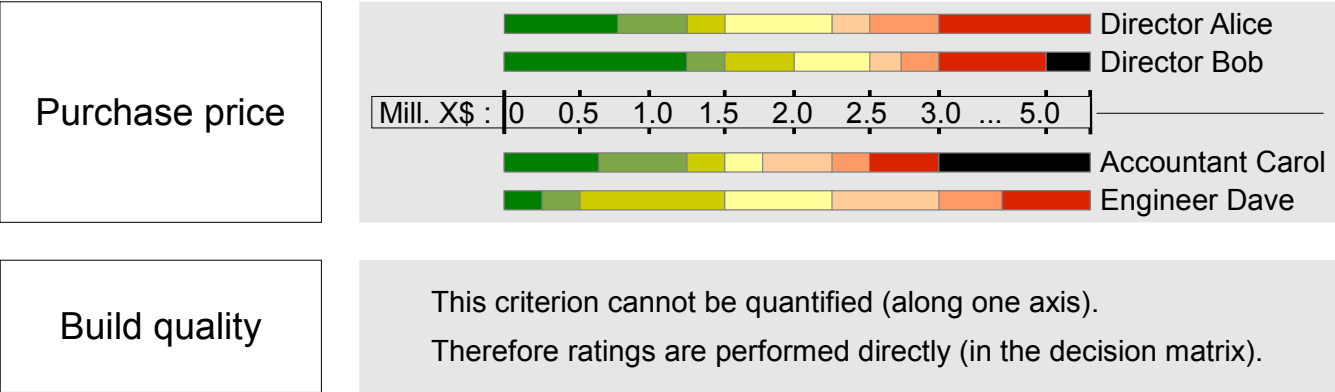
Back to our familiar example.

Alice and Bob are in charge of buying some expensive equipment, and go for two-step ratings.

They use a **new diagram** (shown on the left) for that. The criteria are the same as in the decision matrix.

Fig. F.8a : two-step ratings (multi-party)

Two-step rating baselines
(multi-party)



The 1. step is to establish
baselines for how
quantifiable facts translate
into individual **ratings**.

For instance, Carol rates
any purchase price above
3m X\$ as 'not acceptable'.

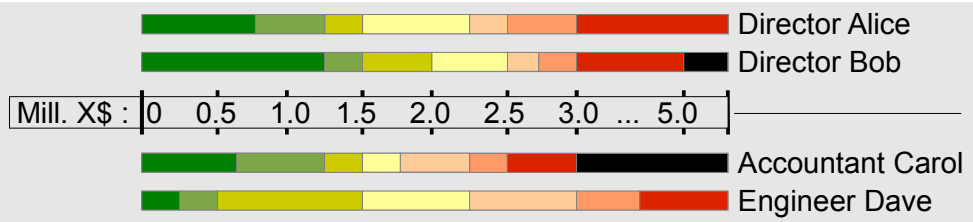
Note that not all criteria
are quantifiable.

Fig. F.8b : two-step ratings (multi-party)

Merged diagrams

Decision matrix

Two-step rating baselines



This criterion cannot be quantified (along one axis).
Therefore ratings are performed directly (in the decision matrix).

Two-step rating baselines and decision matrix can be merged into a single diagram.

Purchase price

Build quality

Buy
'discount price'
product A

Buy
'premium edition'
product B

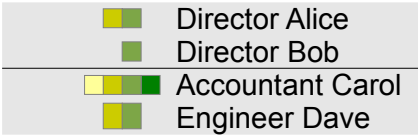
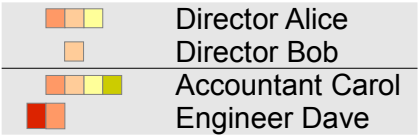
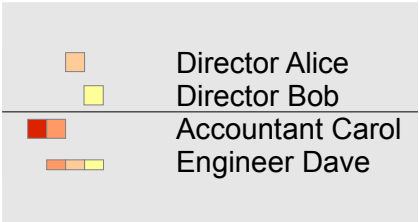
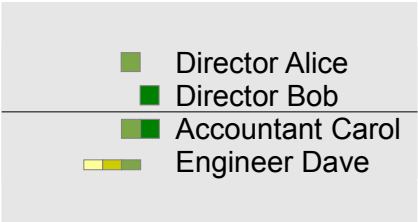
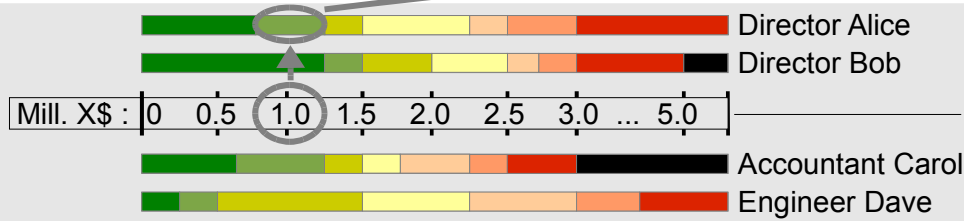


Fig. F.9a : merged diagrams

Merged diagrams

Decision matrix

Two-step rating baselines



This criterion cannot be quantified (along one axis).
Therefore ratings are performed directly (in the decision matrix).

Now it becomes transparent
on which numbers the
individual ratings are based.

(Applies only to quantifiable criteria)

Purchase price

Build quality

Buy
'discount price'
product A

Buy
'premium edition'
product B

Director Alice
Director Bob
Accountant Carol
Engineer Dave

Director Alice
Director Bob
Accountant Carol
Engineer Dave

Director Alice
Director Bob
Accountant Carol
Engineer Dave

Director Alice
Director Bob
Accountant Carol
Engineer Dave

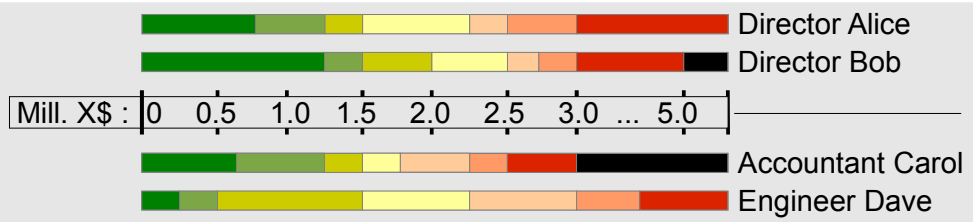
Example:

Alice expects (in her 2. rating
step) a purchase price of
about 1m X\$ for product A.

Merged diagrams

Decision matrix

Two-step rating baselines



This criterion cannot be quantified (along one axis).
Therefore ratings are performed directly (in the decision matrix).

And this is how it looks including collective scores

(scores updated after Dave applied weight factors to his ratings).

Purchase price

Build quality

Calculated scores (collective)

Buy 'discount price' product A

Buy 'premium edition' product B

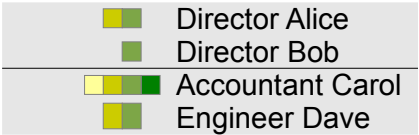
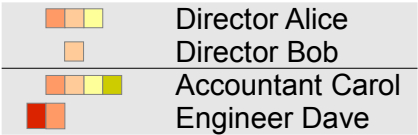
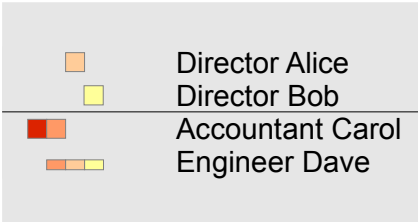
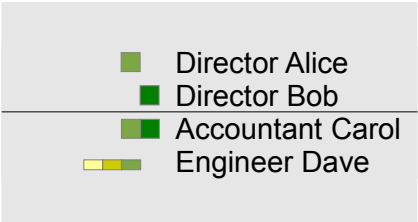


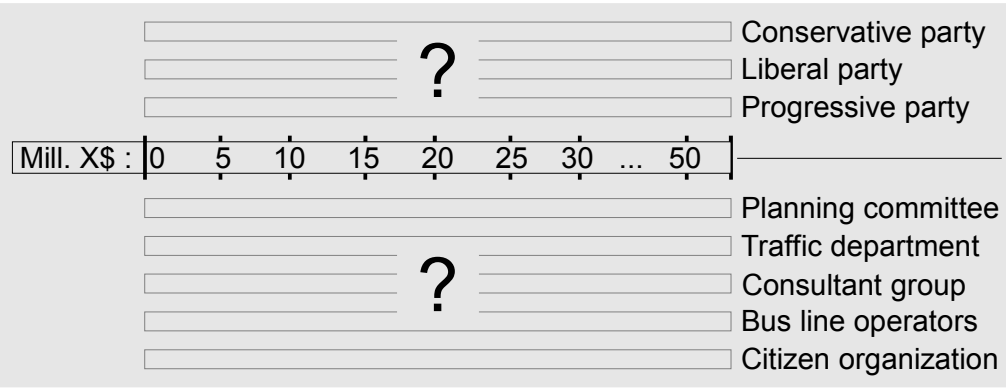
Fig. F.9c : merged diagrams

Sometimes it's easier to keep
the **two-step rating baselines**
and the **decision matrix** as
separate diagrams
(instead of merging them).

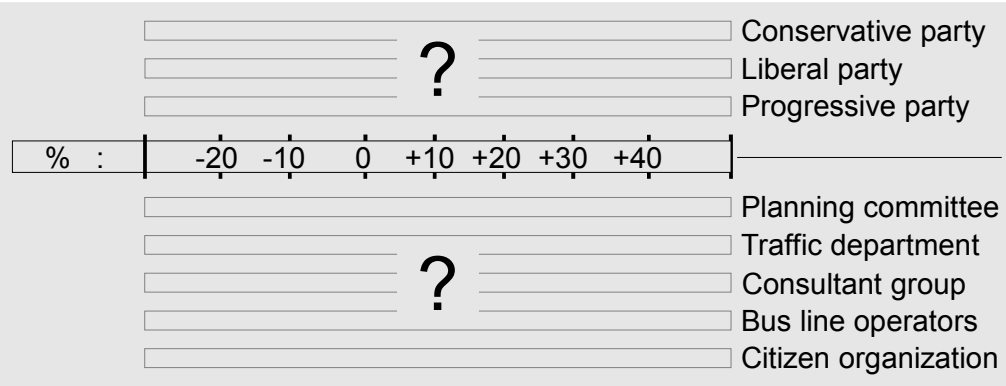
You can still view (or present)
them side by side when wanted.

Two-step rating baselines (multi-party)

Total costs
of
new Central Bus Station
project



Change in
passenger numbers
after
project is completed



The Alice-Bob-Carol-Dave-product-A/B example was very simple.

In real life, the 'products' could be new bus stations, schools, business plans, tax systems, or foreign policy strategies.

(Just a reminder regarding what this appendix is about.)

Fig. F.8c : two-step ratings (multi-party)

Appendix F progress

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... weighted criteria	done
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The discussed diagrams
are decision making **tools**.

Like many other tools,
they deliver good results
when handled properly.

Otherwise not.

So, what do you need
to **watch out** for?

Well, mistakes can occur in
all 4 areas of the decision matrix:

1. the **options** area
2. the **criteria** area
3. the **ratings** area
4. the **scores** area

1. Common mistakes in the **options** area

- not enough effort is made to find promising decision options.
No decision matrix can show the merits of overlooked options
- unclear or rhetorically biased option descriptions
(hinder accurate ratings)

2. Common mistakes in the **criteria** area

- important criteria are not included ('important' for at least one party)
- the criteria list is crowded with rather unimportant criteria
(10-30 criteria work well in most situations)
- unclear or rhetorically biased criteria descriptions
(hinder accurate ratings)

3. Common mistakes in the ratings area

- inconsistent ratings
- ratings based on wrong assumptions

(both discussed in the 'two-step ratings' section)

4. Common mistakes in the scores area

- calculation errors
(yes, it happens)
- scores are not updated after a rating (or weighting) change

Note that some of these mistakes are related to decision making **in general** (with or without diagrams).

Certainly a major mistake would be to write/read tens/hundreds of **text** pages, and then to make a decision based on what you happen to **remember**, or on what was **rhetorically** most convincing.

Decisions affecting the public should be made according to a quality standard, to prevent all these mistakes, and to ensure good **decision quality**

(see appendix E, p. 294).

Appendix F progress

Intro	done
Why bother?	done
Basic diagram	done
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Appendix F summary

You cannot make well-founded and good decisions without overview.

In complex situations, overview requires diagrams.

A 'multi-party decision matrix' is a diagram specifically designed for that purpose.

Whether 2 or 10 decision makers, new office furniture or new foreign policy: this diagram reveals which decision options are better than others, and why.

In addition, it speeds up the decision making process by replacing a lot of (report writing) paperwork.

Because of its clear and logical structure, it can be explained to most audiences in about 1 minute.

1 minute summary

(multi-party decision matrix)

This is an A4/Letter-sized page. It shows a multi-party decision matrix example. Such diagrams are decision support tools.

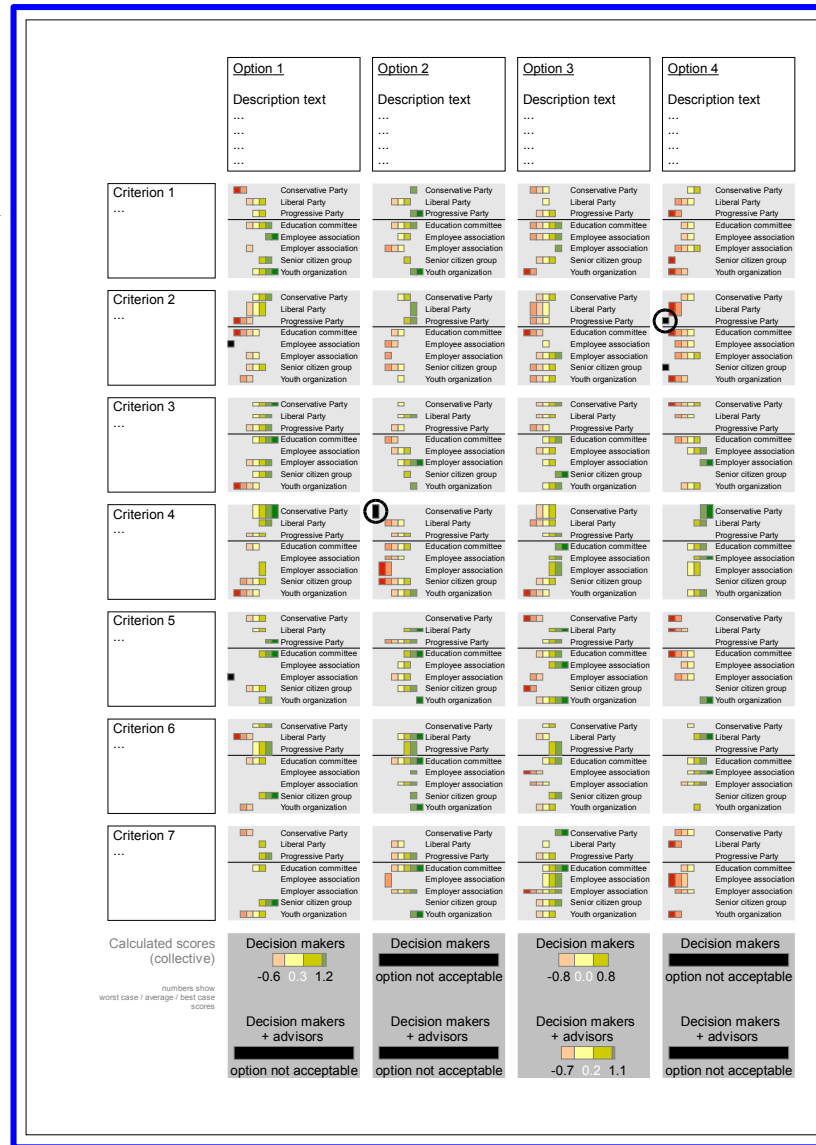
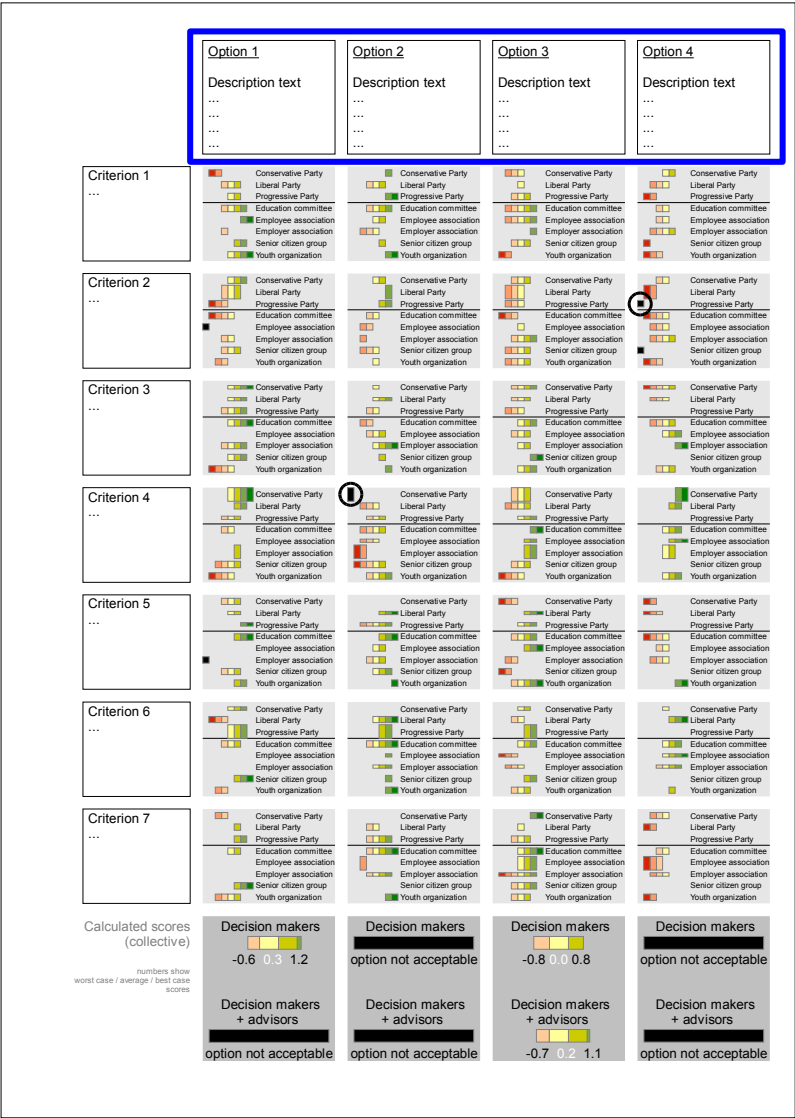


Fig. F.10a : 1 minute summary

1 minute summary

(multi-party decision matrix)

This is an A4/Letter-sized page. It shows a multi-party decision matrix example. Such diagrams are decision support tools.



The considered decision options (choices) are listed here.

Fig. F.10b : 1 minute summary

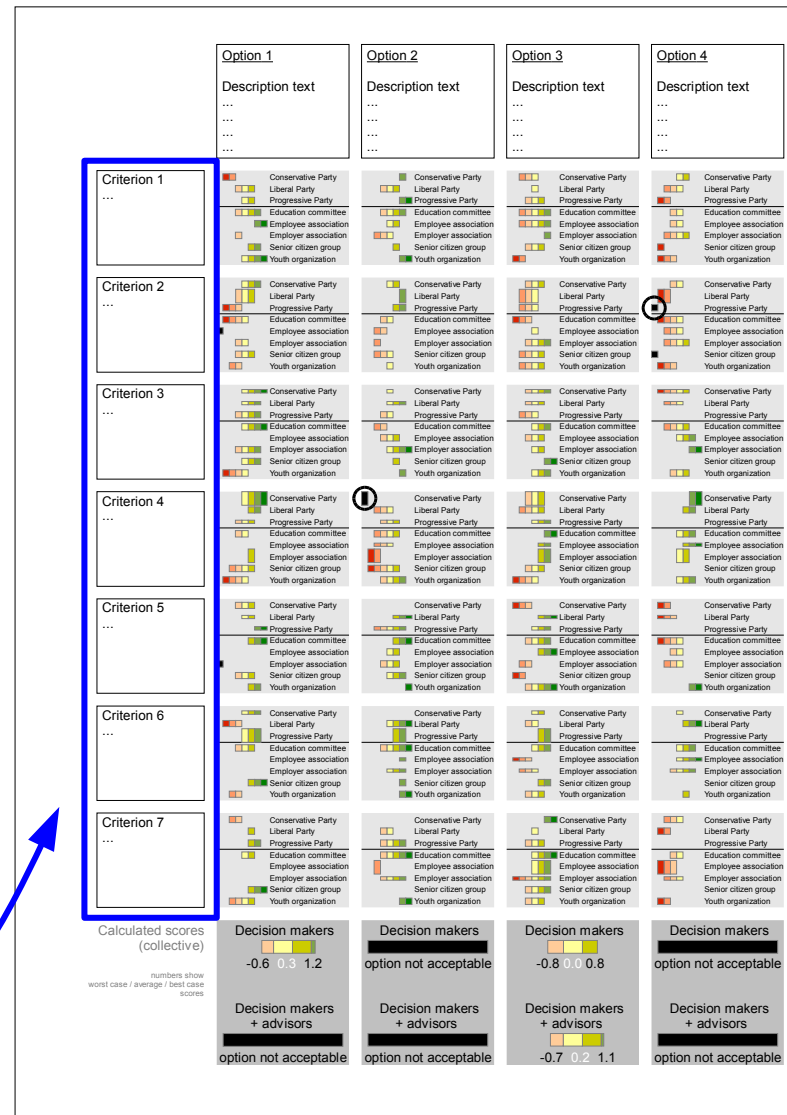
1 minute summary

(multi-party decision matrix)

This is an A4/Letter-sized page. It shows a **multi-party decision matrix** example. Such diagrams are decision support tools.

The considered decision **criteria** are listed **here**.

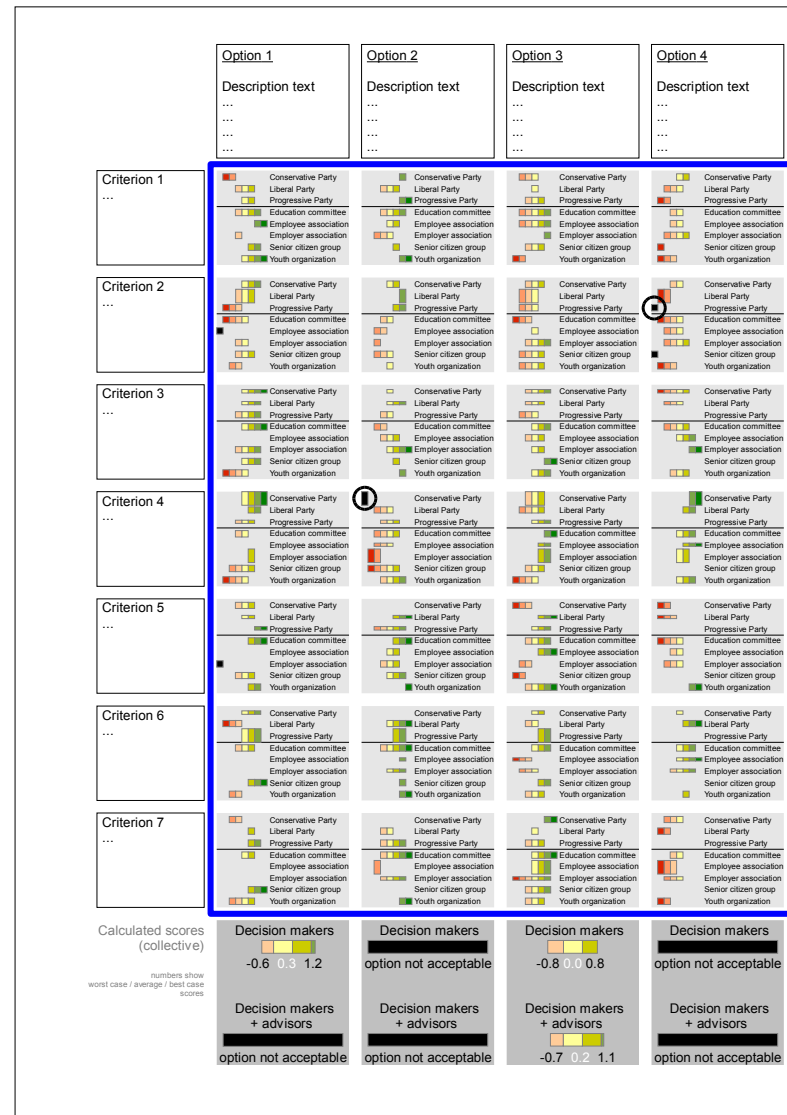
The considered decision **options** (choices) are listed here.



**(multi-party
decision matrix)**

This is an A4/Letter-sized page. It shows a **multi-party decision matrix** example. Such diagrams are decision support tools.

The considered decision **criteria** are listed here.



The considered decision **options** (choices) are listed here.

The decision makers and their advisors **rate** (evaluate) the option/criterion combinations **here**.

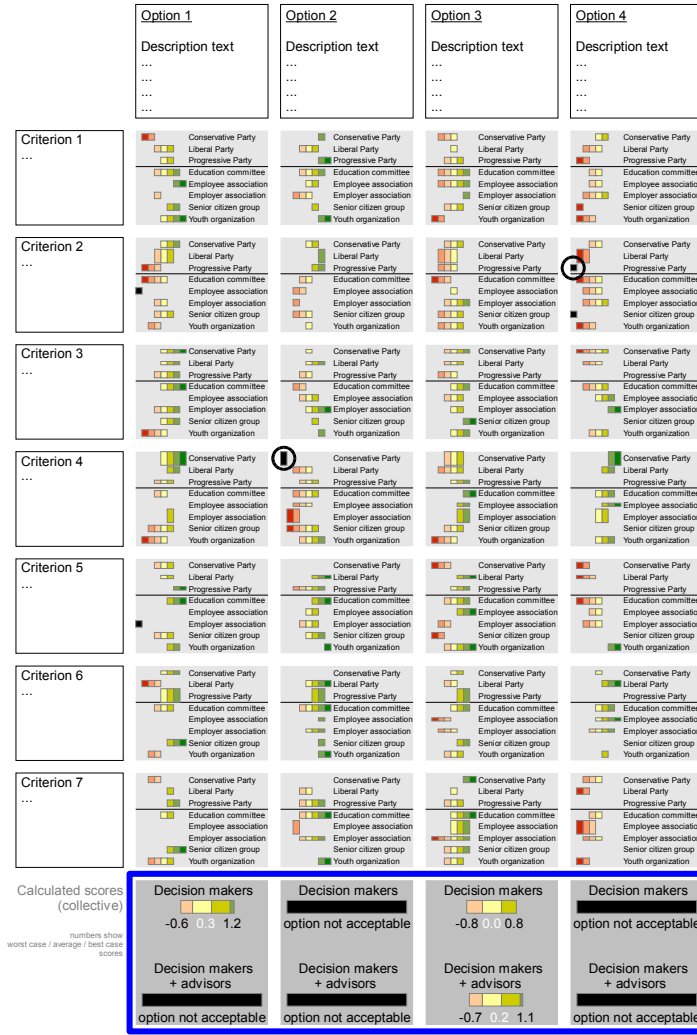
Fig. F.10d : 1 minute summary

1 minute summary

(multi-party decision matrix)

This is an A4/Letter-sized page. It shows a **multi-party decision matrix** example. Such diagrams are decision support tools.

The considered decision **criteria** are listed here.



The considered decision **options** (choices) are listed here.

The decision makers and their advisors **rate** (evaluate) the option/criterion combinations here.

Calculated **scores** (points) for acceptable options are shown **here**.

1 minute summary

(multi-party
decision matrix)

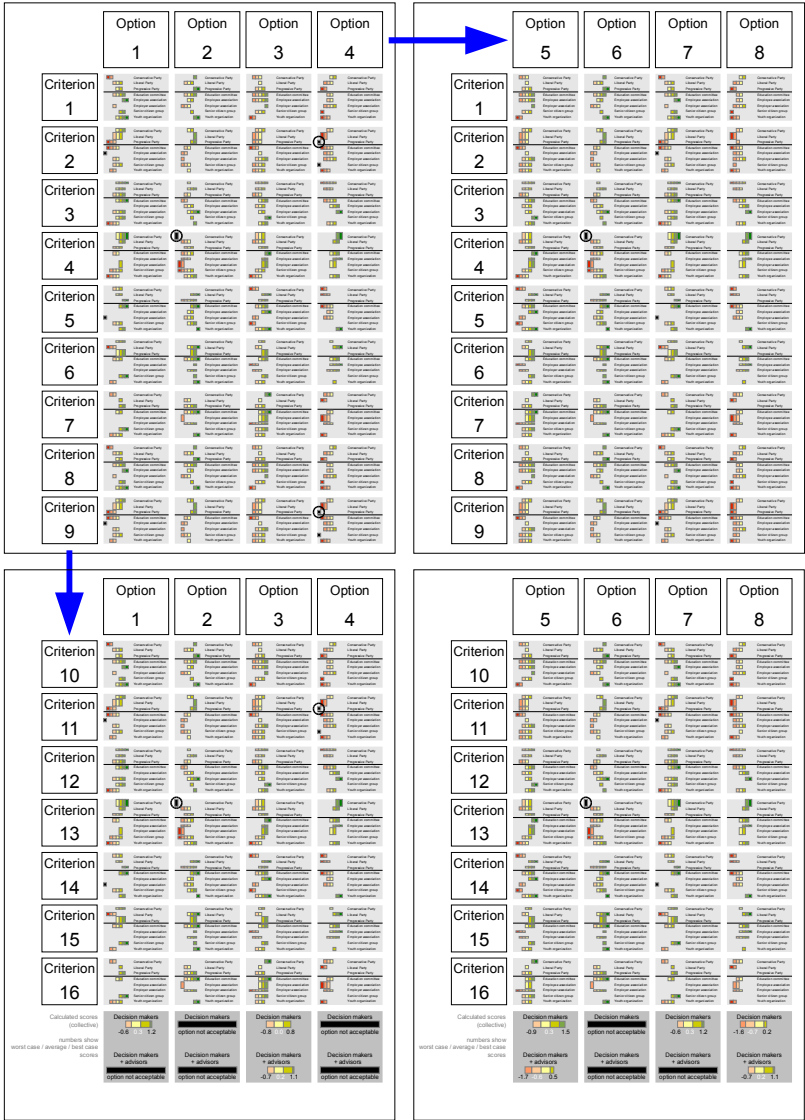
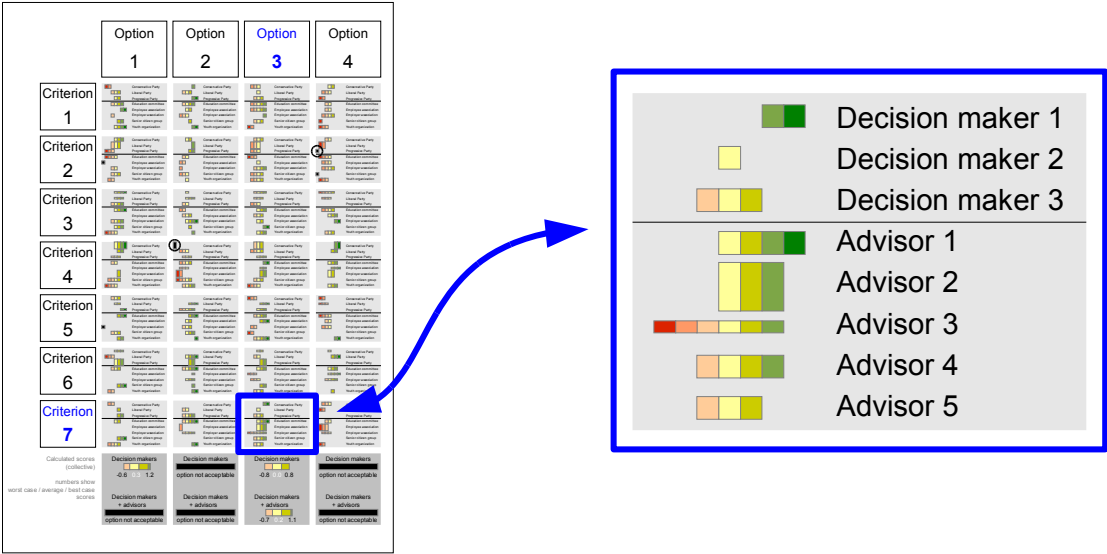


Fig. F.10f : 1 minute summary

Layout sample

1 minute summary

(multi-party
decision matrix)

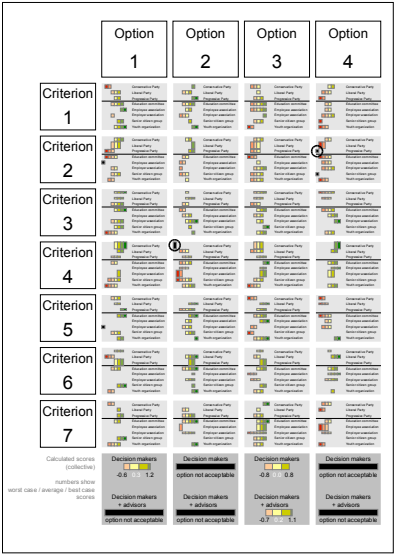


This is how option 3 is rated on criterion 7.

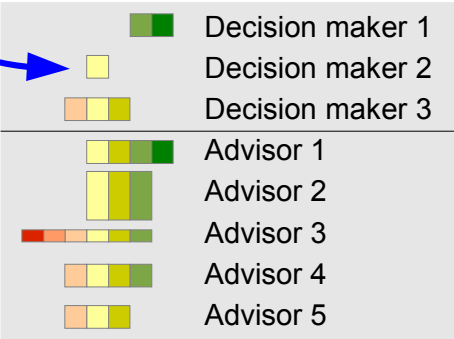
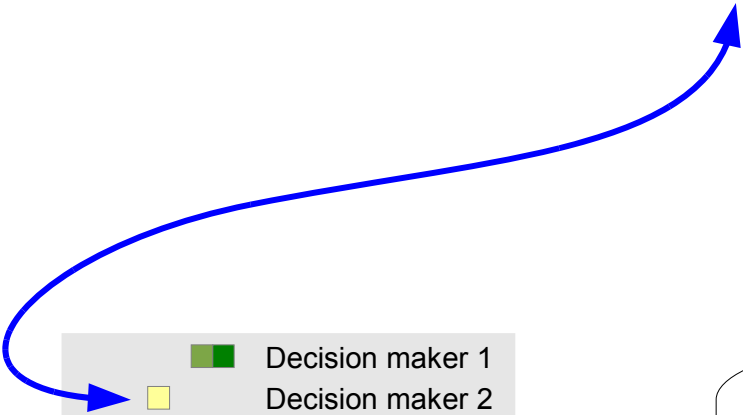
Fig. F.10g : 1 minute summary

1 minute summary

(multi-party decision matrix)



Rating :	not acceptable	very negative	negative	moderately negative	neutral	moderately positive	positive	very positive
Score :	(n/a)	(-3)	(-2)	(-1)	(0)	(+1)	(+2)	(+3)



All ratings are chosen from the **scale** above.

Fig. F.10h : 1 minute summary

1 minute summary

(multi-party decision matrix)

Rating :	not acceptable	very negative	negative	moderately negative	neutral	moderately positive	positive	very positive
Score :	(n/a)	(-3)	(-2)	(-1)	(0)	(+1)	(+2)	(+3)

Block height indicates criterion **priority** (weight).

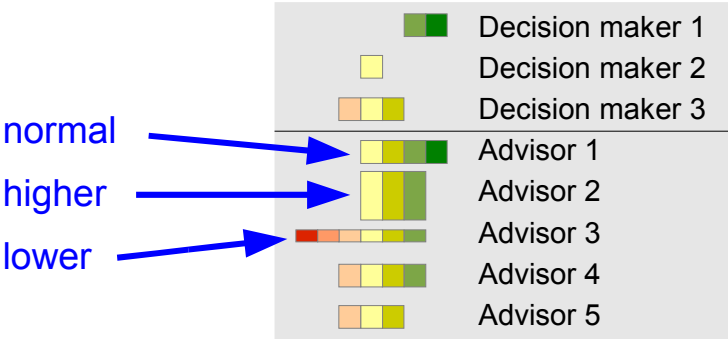
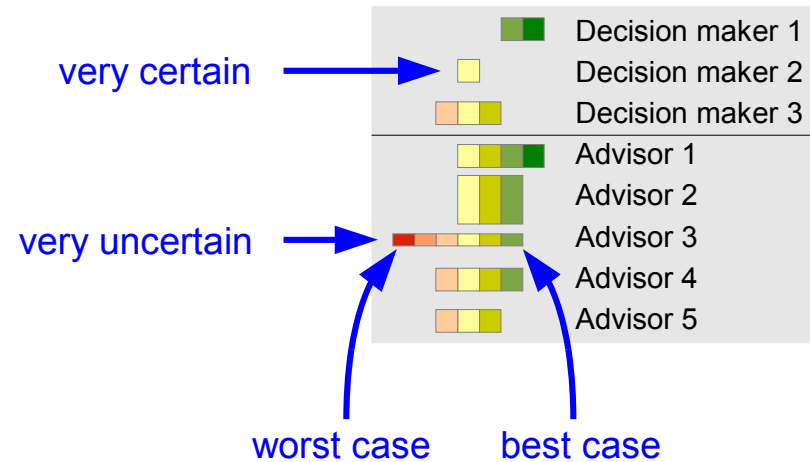


Fig. F.10i : 1 minute summary

1 minute summary

(multi-party decision matrix)

Rating :	not acceptable	very negative	negative	moderately negative	neutral	moderately positive	positive	very positive
Score :	(n/a)	(-3)	(-2)	(-1)	(0)	(+1)	(+2)	(+3)



Multiple ratings reflect
worst/best case
considerations
(uncertainty).

1 minute summary

(multi-party decision matrix)

Rating :	not acceptable	very negative	negative	moderately negative	neutral	moderately positive	positive	very positive
Score :	(n/a)	(-3)	(-2)	(-1)	(0)	(+1)	(+2)	(+3)

Similar and diverging views, as well as possible problems, can easily be spotted.

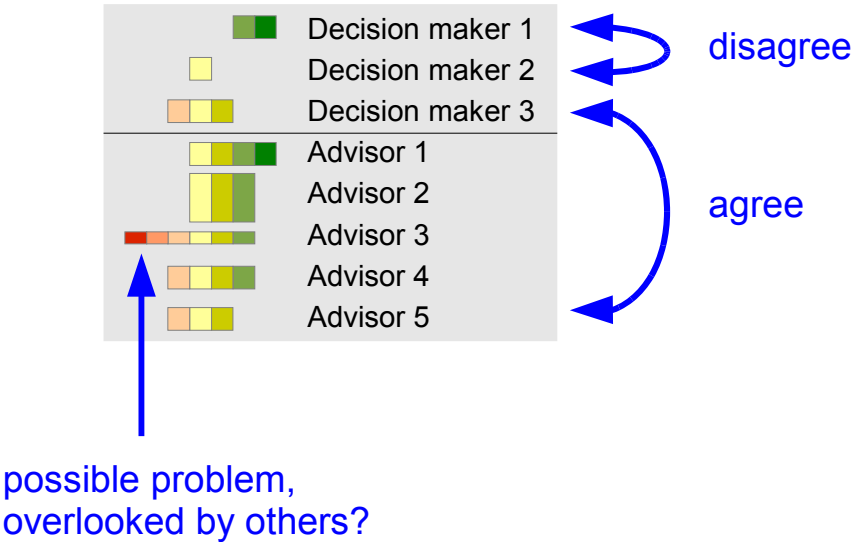


Fig. F.10k : 1 minute summary

Back to the primary reason for
using such diagrams:

They are tools that help you to
avoid the problems
a bad decision would cause.

(They can even help you to
make really good decisions.)

Better decisions,
less problems,
better quality of life.

Appendix G

How to make and use argument maps

Avoid endless discussions

Discussions have an important role in our lives.

They influence our **thinking**, our social **relations**, our **decision making** and our **actions**.

Public discussions (or debates) often precede and influence **political** decision making.

Which again affects us.

Therefore it is in our best interest that discussions give **useful results**. Instead of manipulating us, or simply wasting our time.

This appendix is mostly about diagrams that can help us to have better (and shorter) discussions.

But before making any diagrams
we need to find out what to
expect from a 'better' discussion.

After that, we need to take
a quick look at which reality
these diagrams reflect.

Note that the diagram types in this
appendix come in addition to the
multi-party decision matrices
introduced in appendix F (p. 356).

Rather use those matrices
if the discussion is about
choosing between decision options.

Appendix G progress

Intro **done**

About discussions **up next**
Diagrams and reality (yours or mine?)

Argument maps
Argument evaluation
Argument evaluation diagrams

In an **ideal** discussion,
the participants:

1. talk/write about a **precisely defined topic**, and nothing else
2. agree on the **purpose** of the discussion
3. treat each other with **respect**
4. express themselves **clearly**

5. consider each other's viewpoints and arguments with **open minds**
6. **come to their conclusions after they have heard and evaluated all arguments**

and
7. do all this **without wasting time.**

In **real life** discussions,
the participants often do
exactly the opposite.

Sometimes in all 7 aspects.

Results, if any, are accordingly.

Unfortunately, because this
happens so often, it is widely
considered as normal and
acceptable behaviour.

Real life 'discussions' are often
rather **debates**.

In a debate, the participants
try to convince each other
(or at least their audience)
of their **opposing** positions.

Arguments are used
to **attack** or **defend** positions,
rather than to arrive at
well-founded conclusions.

Back to the discussions.

There is no practical way to **ensure** that discussion participants behave 'ideally' as outlined 2 pages before.

But there are at least 3 approaches that can **help**.

1. **education** and **training**, especially when started at early age

2. discussion **rules**

3. **visualization** techniques

When combined, these approaches bring ideal discussions within reach.

But already one of them alone can make a discussion better.

Approach 1 requires long-term thinking and much **preparation**.

Approaches 1 and 2 require either **authority** over (potential) participants, or their full **cooperation**.

Approach 3 does neither.

Whether you are a participant or an audience member, you can always listen to what is said and make a diagram of it.

More precisely, you can:

- follow the discussion
- extract claims, arguments and evaluations from it
- convert that information into visual form (a diagram)
- make the diagram(s) available to participants and audience

But how can a diagram help to make a discussion better?

A good **discussion support diagram** does not reproduce verbal smoke screens, other rhetorical tricks, insults and off-topic statements.

Hence it can give better **overview, clarity** and **focus**.

And once the participants see that an argument has been registered in a diagram, they may refrain from repeating it.

The 'ideal discussion' aspects 1, 3, 4, maybe 6, and definitely 7 could benefit from all this (see p. 445).

A lot more could be said about discussions. But that is beyond the scope of this appendix.

Appendix G progress

Intro done

About discussions done

Diagrams and reality (yours or mine?) up next

Argument maps

Argument evaluation

Argument evaluation diagrams

No two persons have exactly the same perception of reality.

Something I consider as fact, you might consider as someone's opinion. Something you consider as valid conclusion, I might consider far-fetched. And so on.

This can easily lead to misunderstandings, confusion and/or conflicts.

To avoid these, the diagram maker (ideally: all discussion participants) must **understand the difference between observations and interpretations.**

Your **observations** are what your five senses tell your mind.

Your **interpretations** are what your mind makes of that.

Observations vs. interpretations (examples)

The man smiled after he boarded the train.

The man was happy after he boarded the train.

The man was happy because he didn't have to wait for the next train.

The man smiled wickedly after he boarded the train.

These satellite photos show troops leaving their usual positions.

These satellite photos prove that an attack is imminent.

The green boxes
contain **observations**
(source: the eyes).

Yellow boxes
contain **interpretations**
(source: the mind).

Observations are **easier to agree on** than interpretations,
and generally provide
more reliable information.

Observations vs. interpretations (examples)

The man smiled after he boarded the train.

The man was happy after he boarded the train.

The man was happy because he didn't have to wait for the next train.

The man smiled wickedly after he boarded the train.

These satellite photos show troops leaving their usual positions.

These satellite photos prove that an attack is imminent.

Note that
100% pure observations
can be hard to obtain.

Quite often there are
traces of interpretation
blended with observations.

Just think about the words
'smiled' and 'usual'
from the examples.

What bearing does all this have
on the making of argument maps
(and similar diagrams)?

1.

Because the diagram maker
needs to summarize/rephrase
arguments presented by others,
such diagrams cannot be
'observation only'.

2.

However, if the diagram maker
follows a code of conduct similar
to the one for decision process
pilots (see p. 328), the diagram
will convey a neutral view.

3.

If not, such diagrams
could be abused for
(public) opinion manipulation.

4.

Therefore it must always
be clear to the audience
who made the diagram,
and which (if any) code of conduct
the diagram maker adhered to.

5.

These diagrams will never be
perfectly true in a scientific or
philosophical sense.

Yet they can be very helpful
in practice.

Appendix G progress

Intro	done
About discussions	done
Diagrams and reality (yours or mine?)	done
Argument maps	up next
Argument evaluation	
Argument evaluation diagrams	

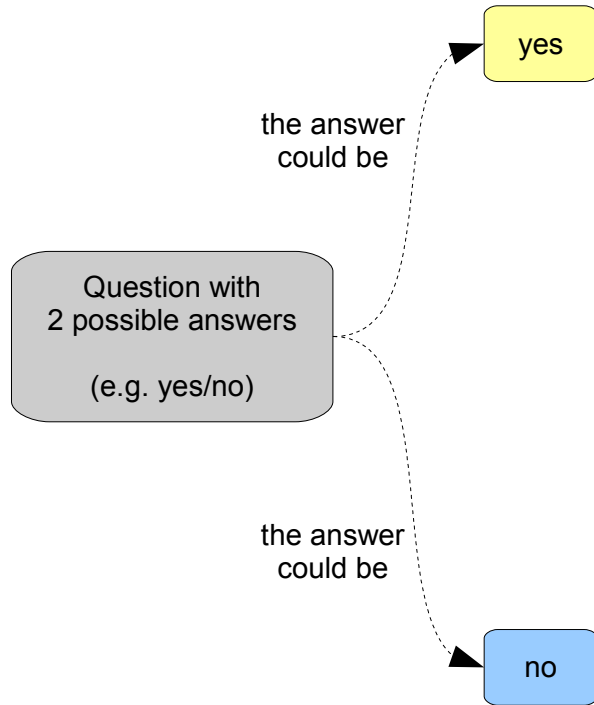
Argument maps can have various layouts. The ones in this appendix are **optimized for easy access**.

Most people will understand them without extra explanations.

This is important, because **difficult to read** diagrams often end up not being read, or not being understood. In both cases they become **useless**.

Please note that the next pages do not explain how to **read** an argument map, but how to **make** one.

Argument map (basic structure)



The starting point
for this type of argument map
is the discussed question.

Best suited are questions
with 2 possible answers.

If the discussion has already
taken place, but without a clearly
expressed topic question, this
question must be 'constructed'
afterwards.

Fig. G.2a : argument map (basic structure)

Argument map (basic structure)

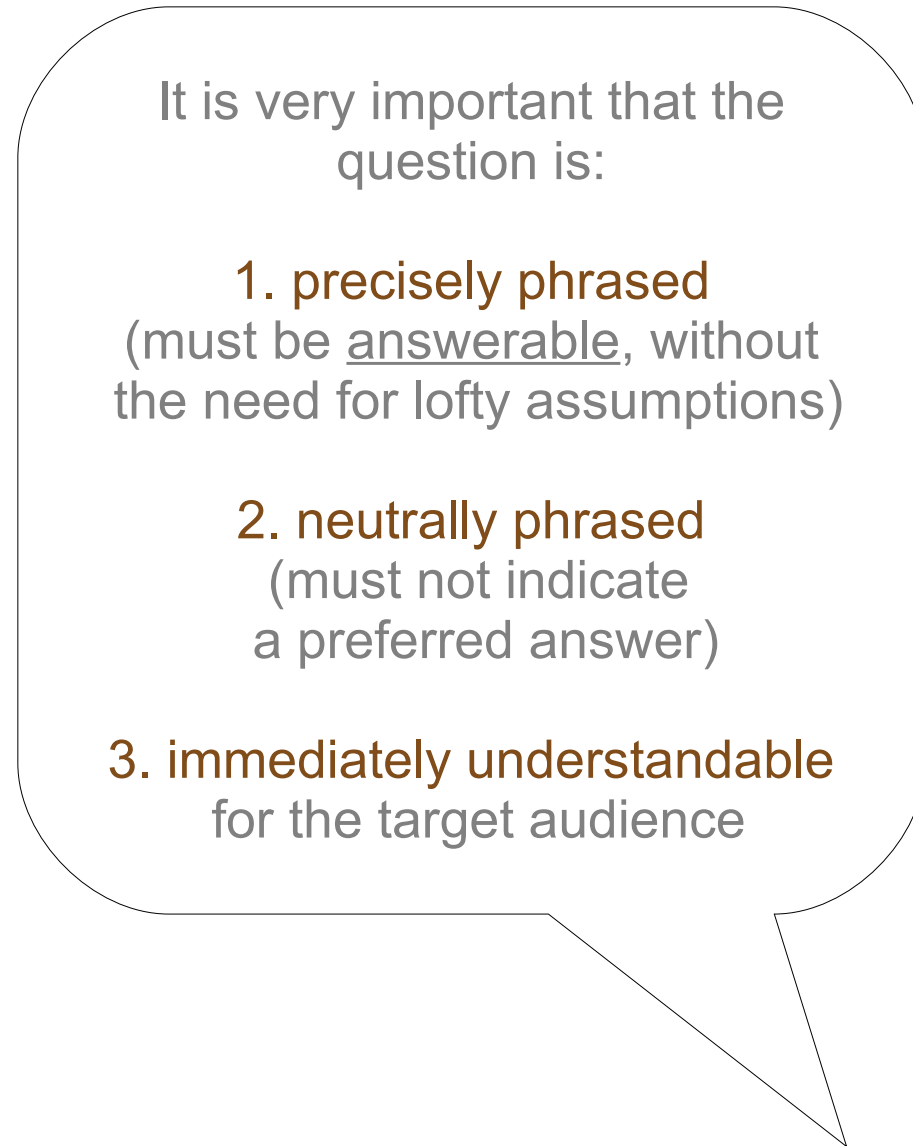
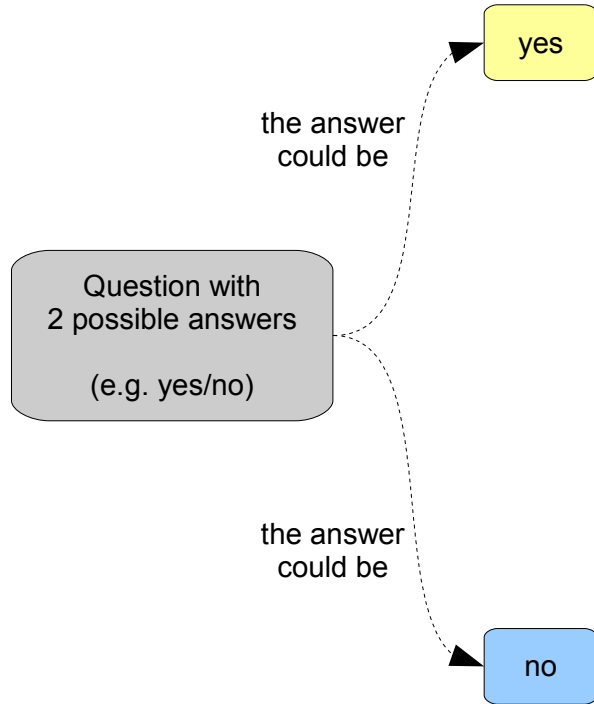


Fig. G.2b : argument map (basic structure)

Argument map (basic structure)

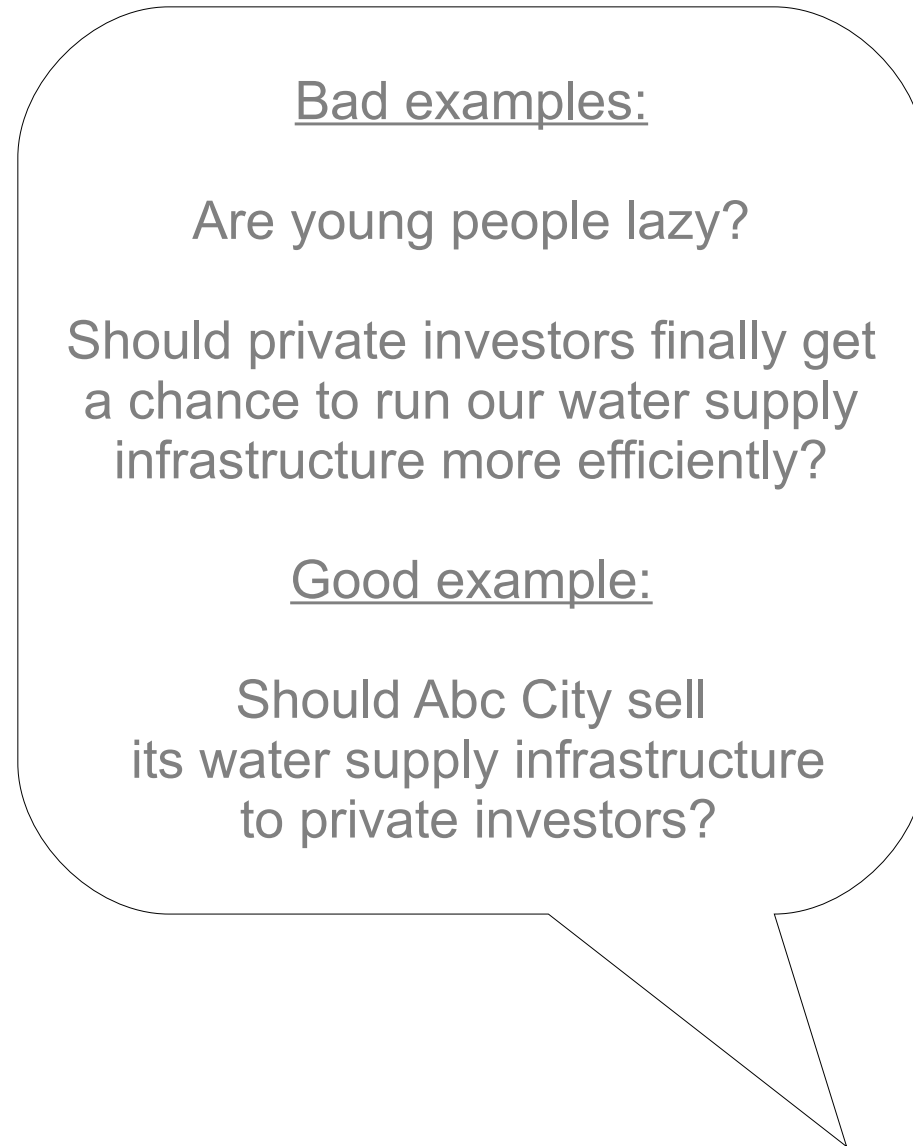
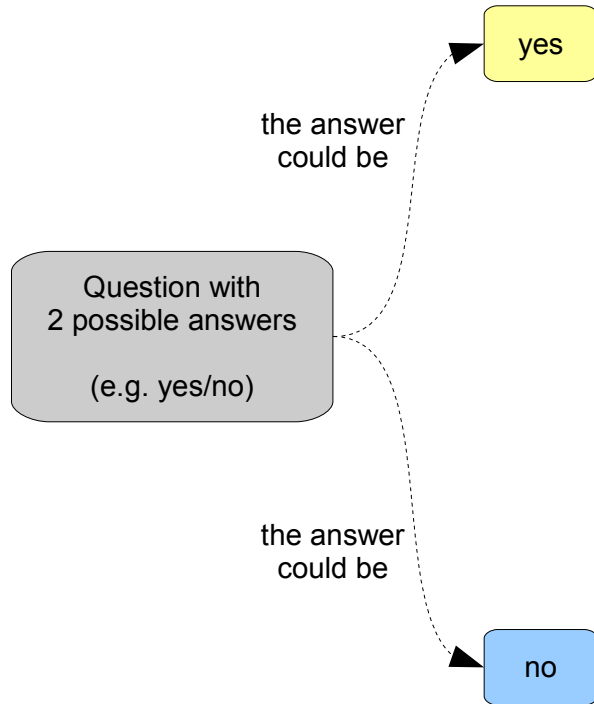
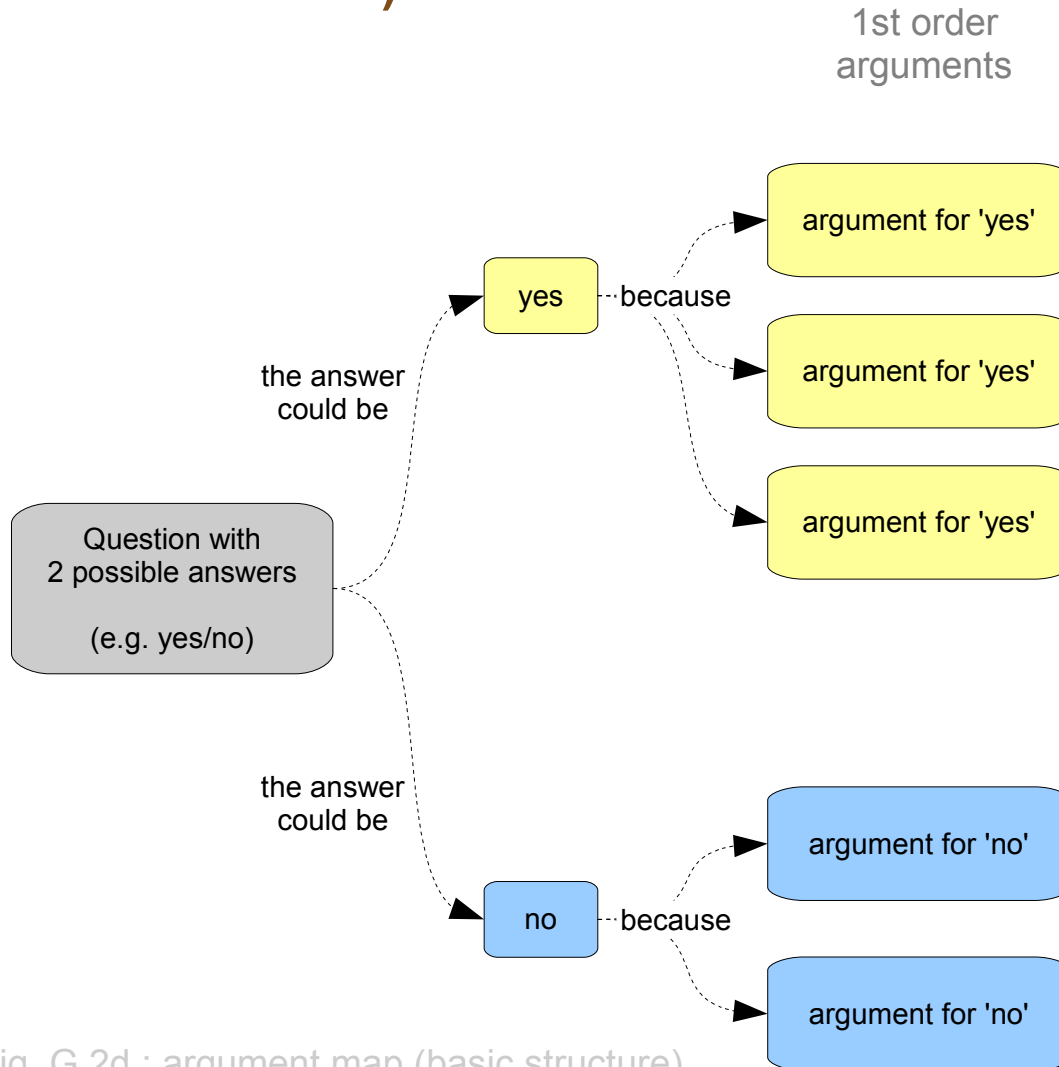


Fig. G.2c : argument map (basic structure)

Argument map (basic structure)

main arguments



Next, arguments directly supporting an answer are listed.

They are the **main arguments**.

All arguments are colour-coded according to the answer they support.

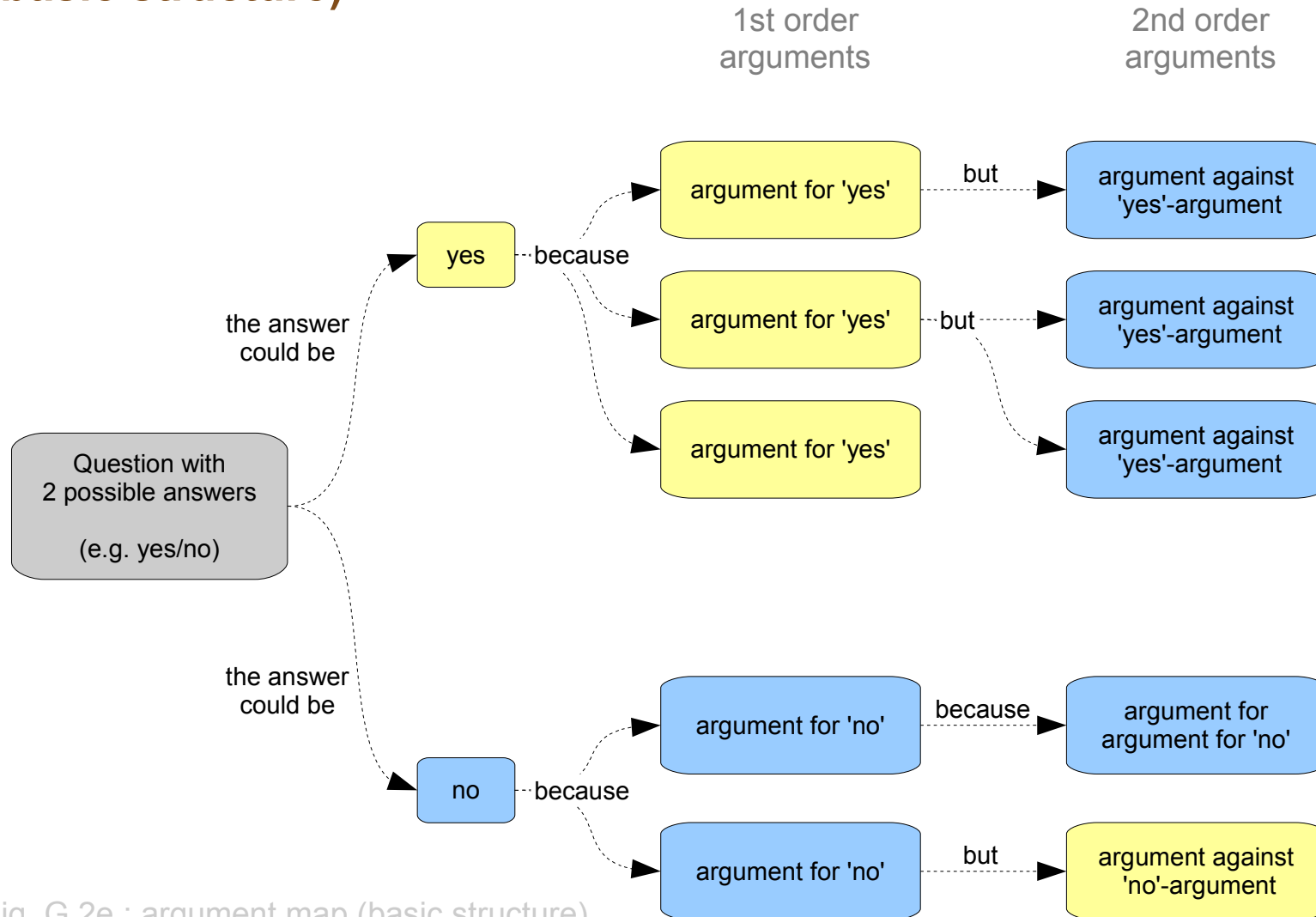
Note that these colours must not indicate any preference (as e.g. red or green would).

Fig. G.2d : argument map (basic structure)

Argument map (basic structure)

main arguments

sub-arguments



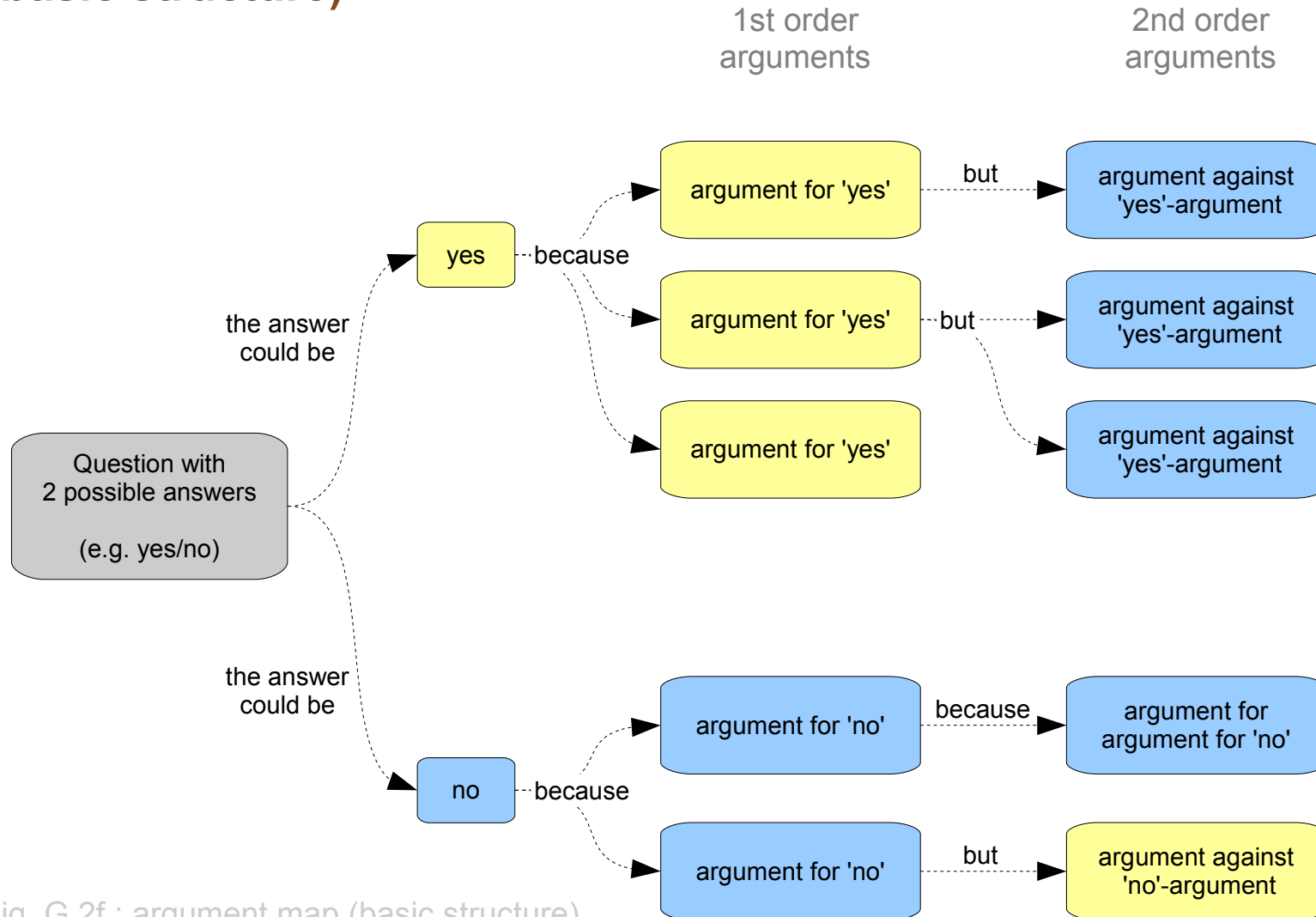
Main arguments are often rebutted (contradicted) or supported by **sub-arguments** (arguments not directly referring to an answer).

Fig. G.2e : argument map (basic structure)

Argument map (basic structure)

main arguments

sub-arguments



3rd order arguments
are also often present,

4th and 5th order
arguments sometimes.

Beyond that, the
discussion almost
certainly has gone
astray.

Fig. G.2f : argument map (basic structure)

Argument map (basic structure)

main arguments

sub-arguments

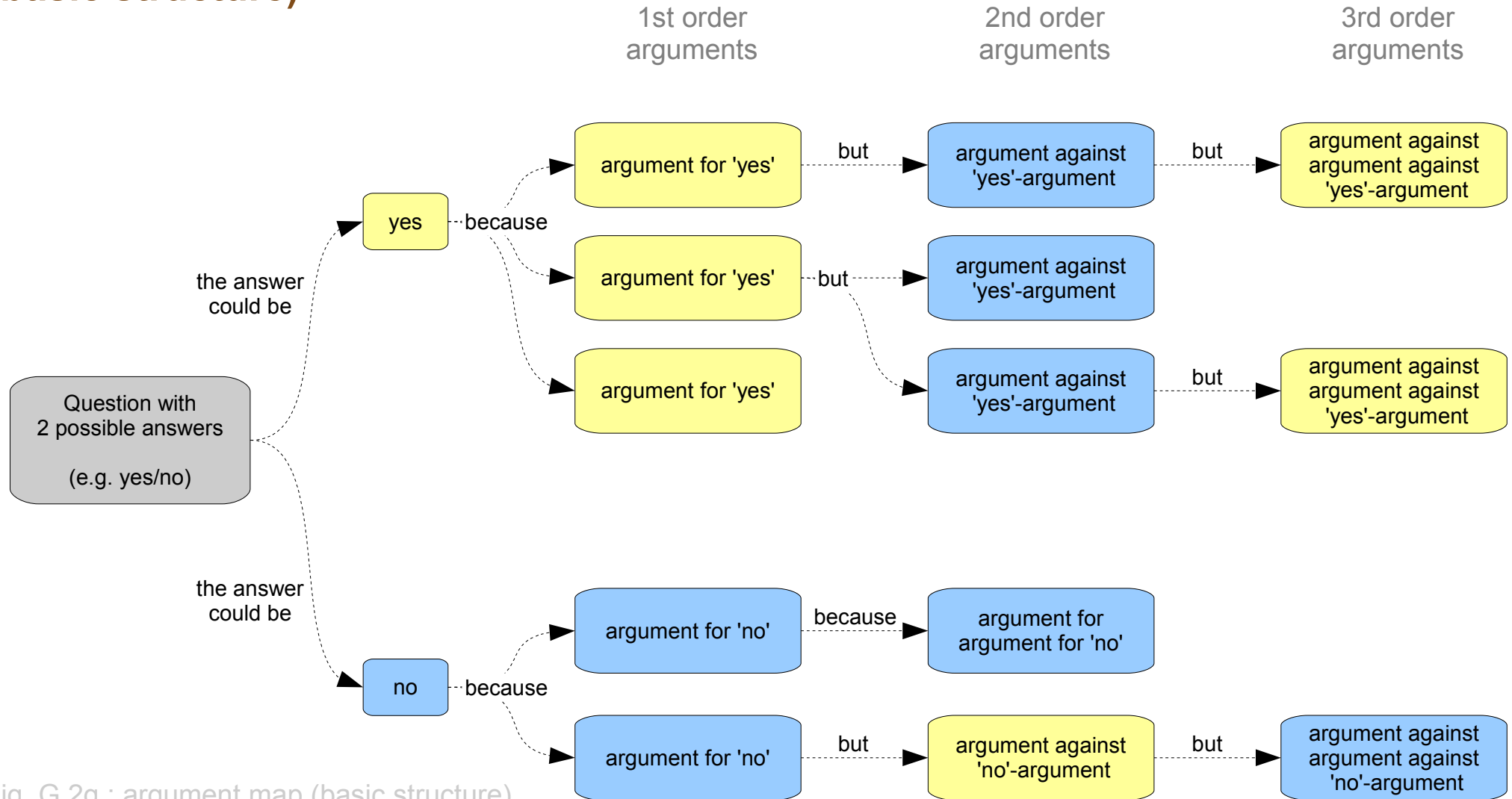


Fig. G.2g : argument map (basic structure)

Argument map (example 1)

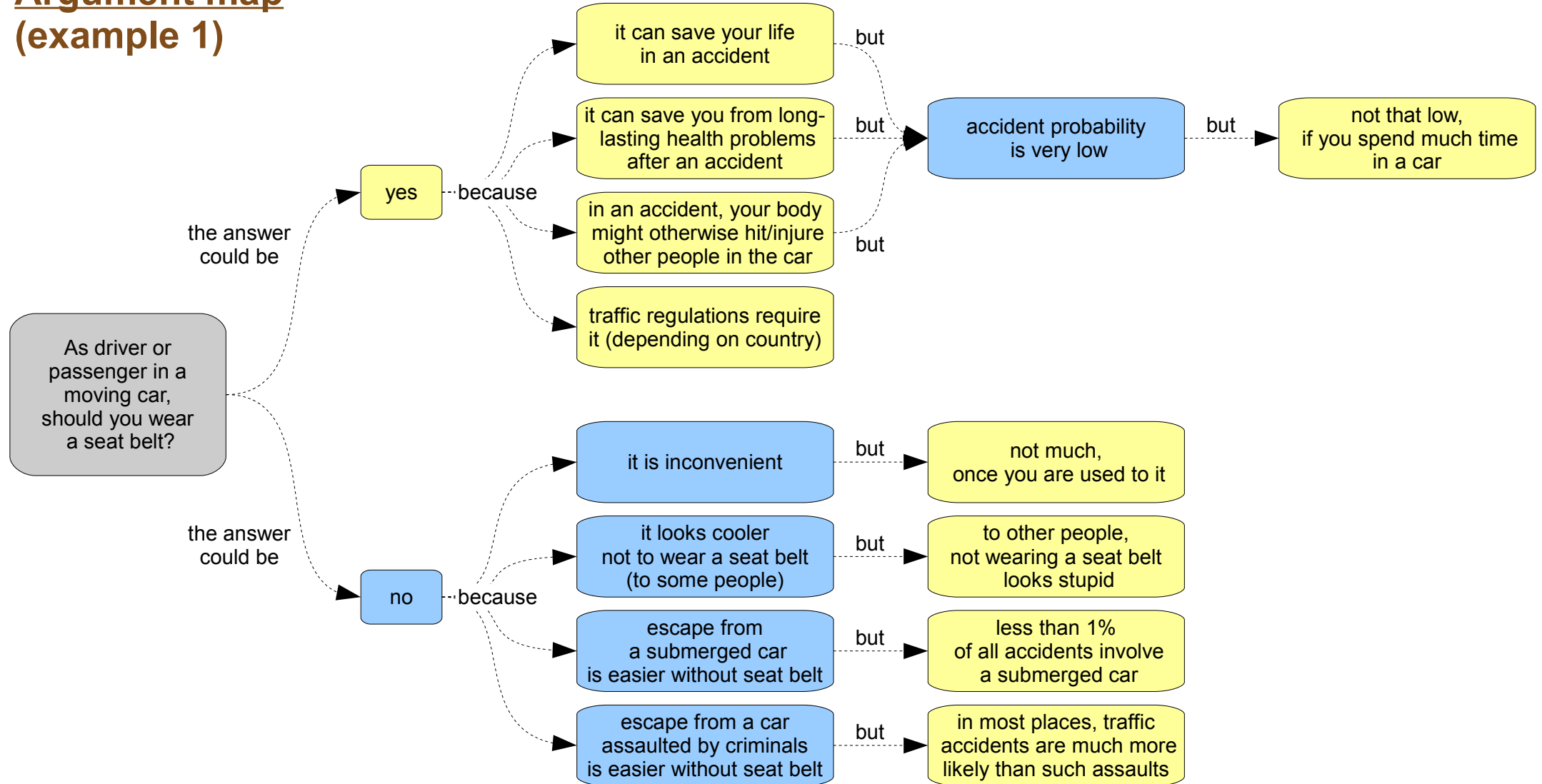


Fig. G.3 : argument map (example 1)

Argument map (example 2)

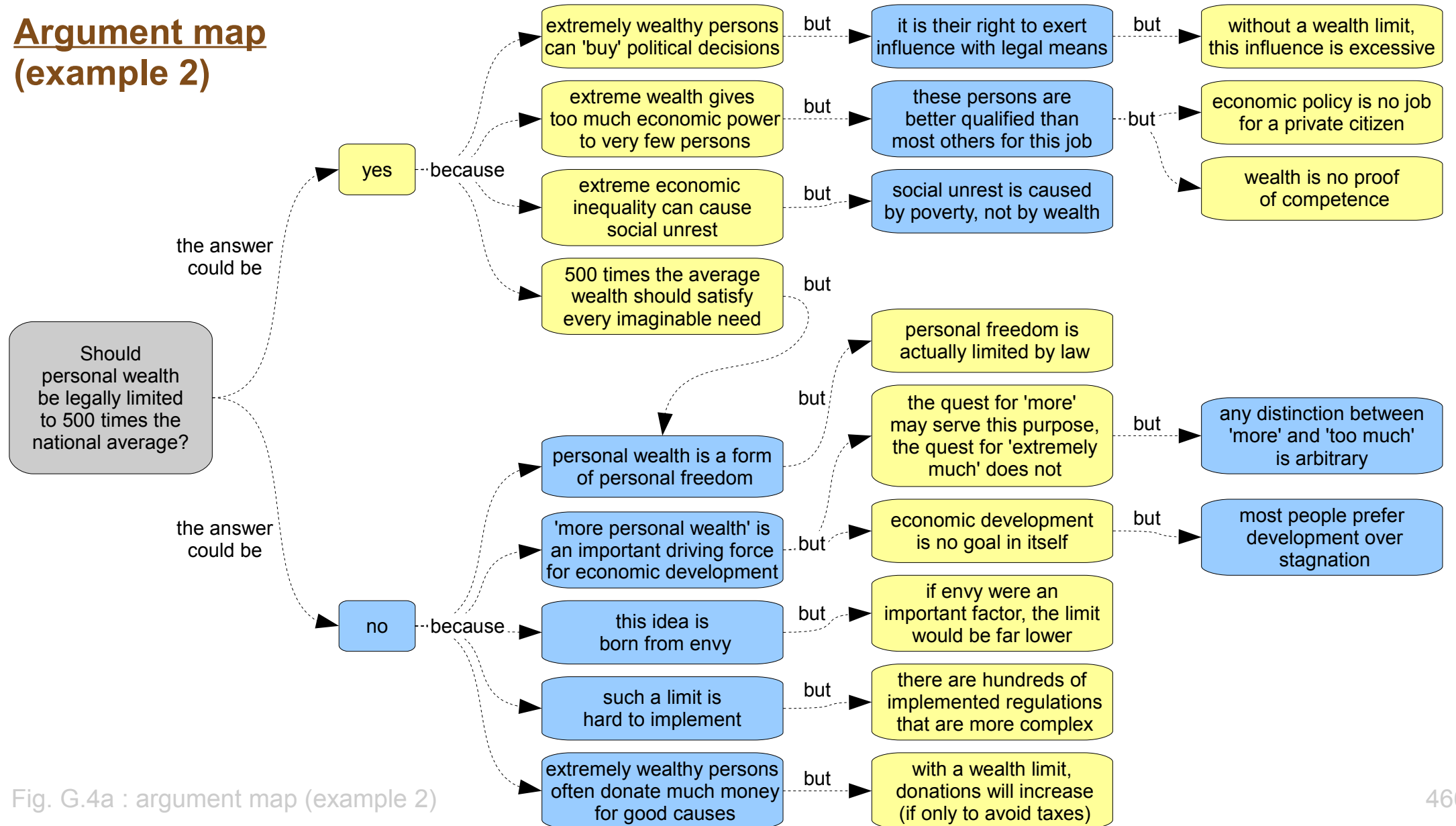


Fig. G.4a : argument map (example 2)

Argument map (example 2)

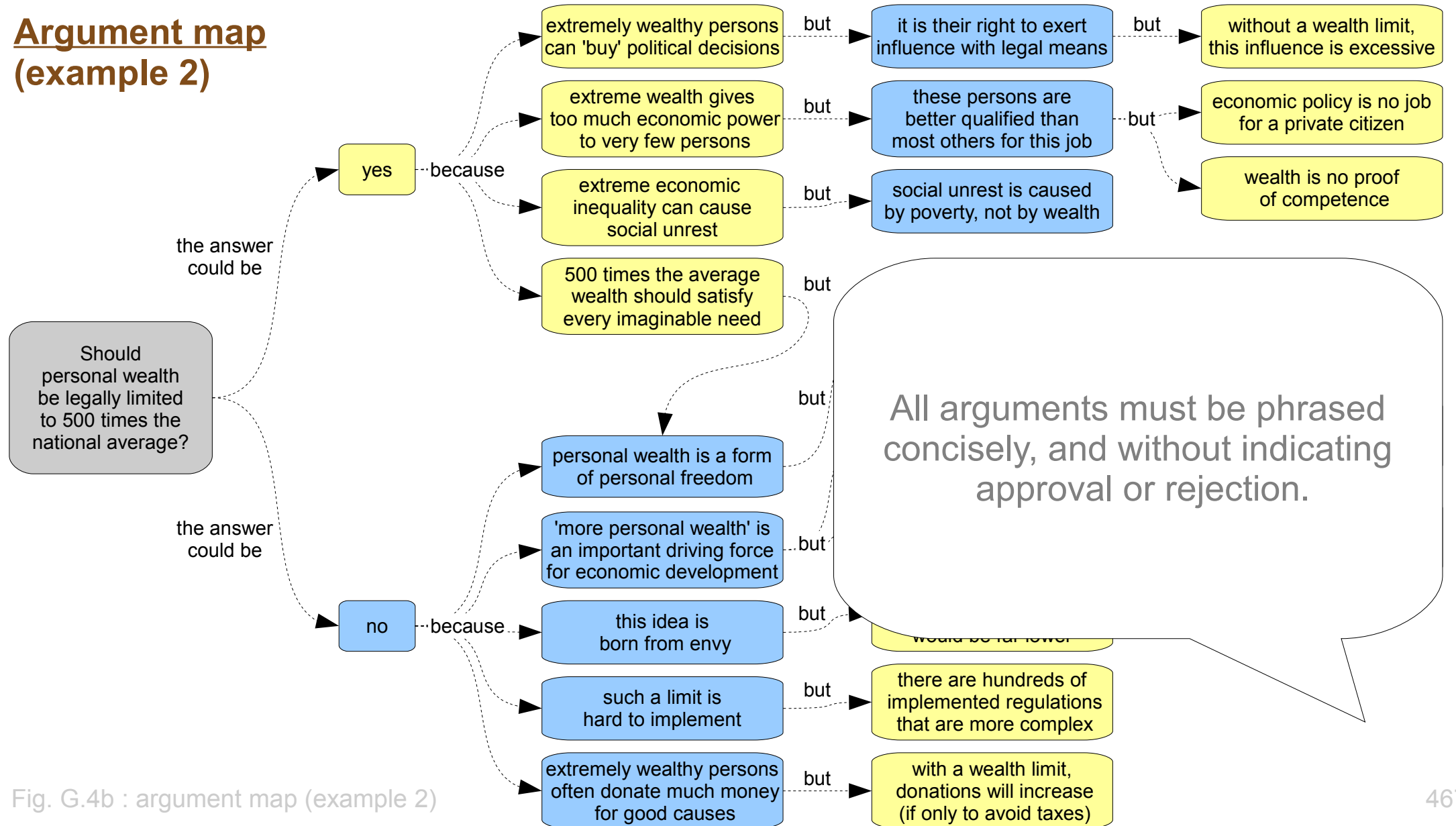


Fig. G.4b : argument map (example 2)

You can clearly see the **lines of arguments** in either example.

With an argument map,
you can understand a discussion
in 2-5 minutes.

Without one, you probably would
have to listen or read for hours.

And you might even end up
with confusion rather than
understanding.

Note that you also can use
argument maps for '**discussions
with yourself**'. In that case, you
could effectively clear your head
by making one.

(It takes about 30-90 minutes.)

Argument map (example 2)

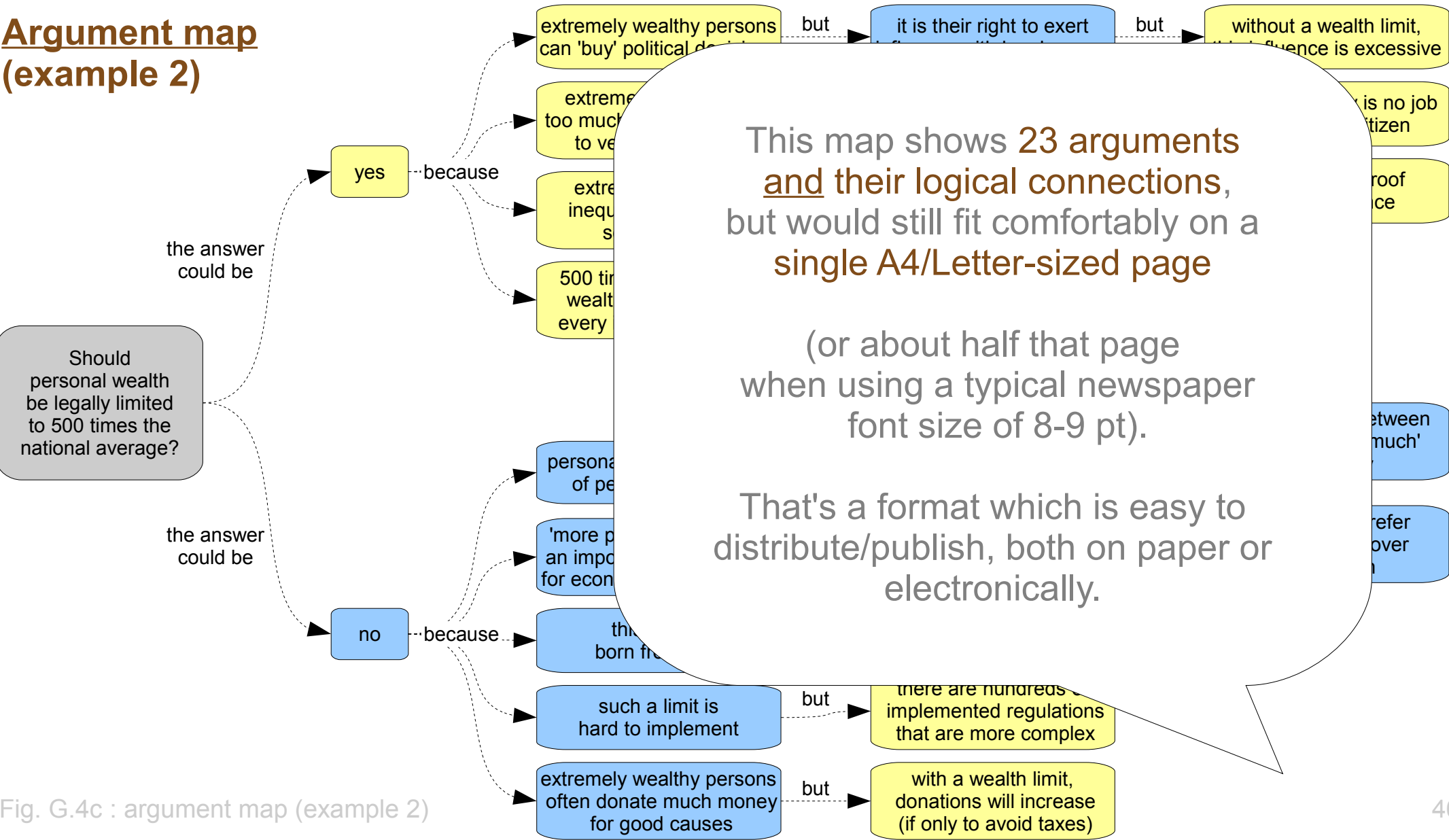


Fig. G.4c : argument map (example 2)

After reading an argument map, you will have a **first impression** of which answer you find better supported.

Depending on the situation, and on how clear your impression is, you must **decide whether closer evaluation is needed**.

Argument evaluation is subject of the next pages.

Alternatively you could extract the **criteria** used in arguments, and put them in a decision matrix (where the possible answers become **options**).

Criteria from the example 1 map:

- accident survival chances
- health status after accident
- convenience
- coolness of appearance
- (...)

Options from the example 1 map:

- wear a seat belt
- don't wear a seat belt

Appendix G progress

Intro	done
About discussions	done
Diagrams and reality (yours or mine?)	done
Argument maps	done
Argument evaluation	up next
Argument evaluation diagrams	

The **result** of an argument evaluation depends not just on the argument, but also on the evaluating person.

That's because different persons have different **reality perceptions** and **value systems** (we find different things important).

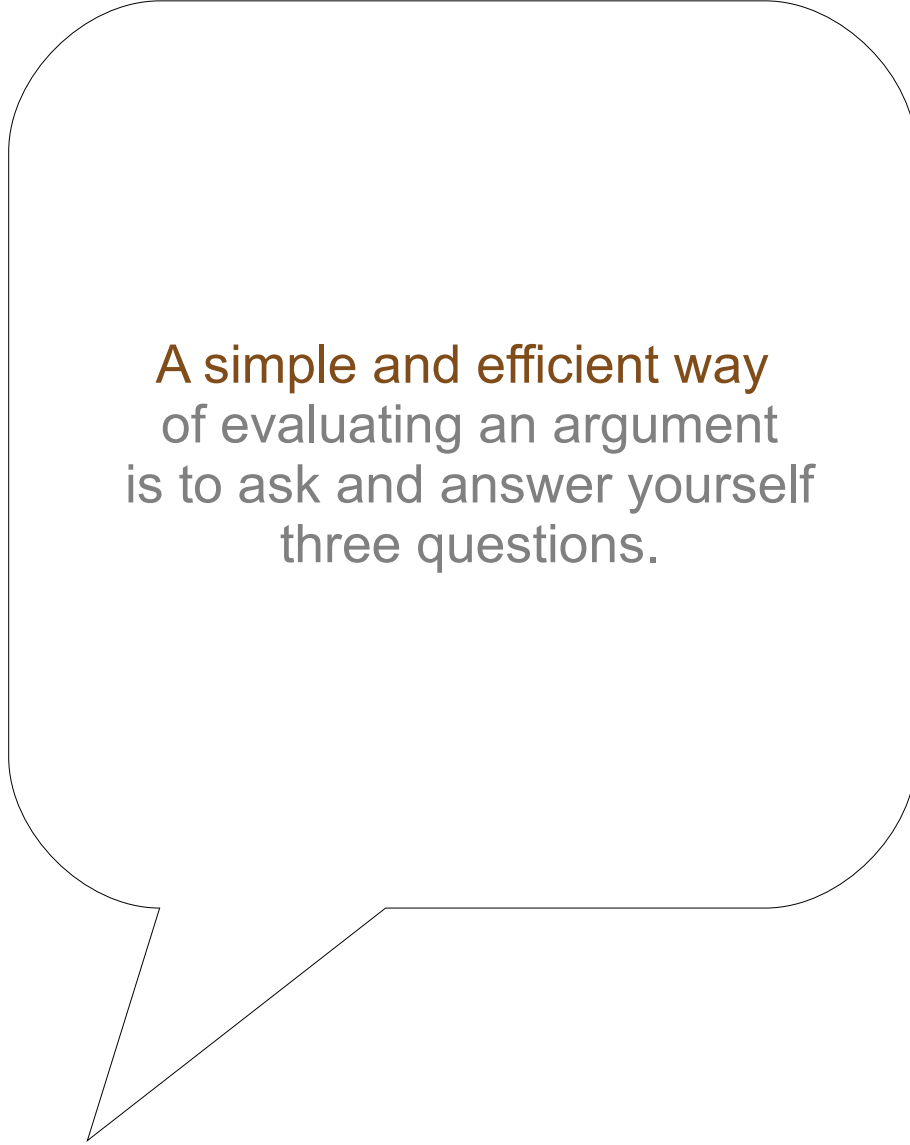
For more information about value systems, see chapter 3 (p.35).

Other persons therefore are not necessarily mistaken or stupid just because they arrive at different results.

If you want to criticize a 'wrong' evaluation result, you should make it clear whether you disagree with the **underlying value system**, or with the **evaluation method** used.

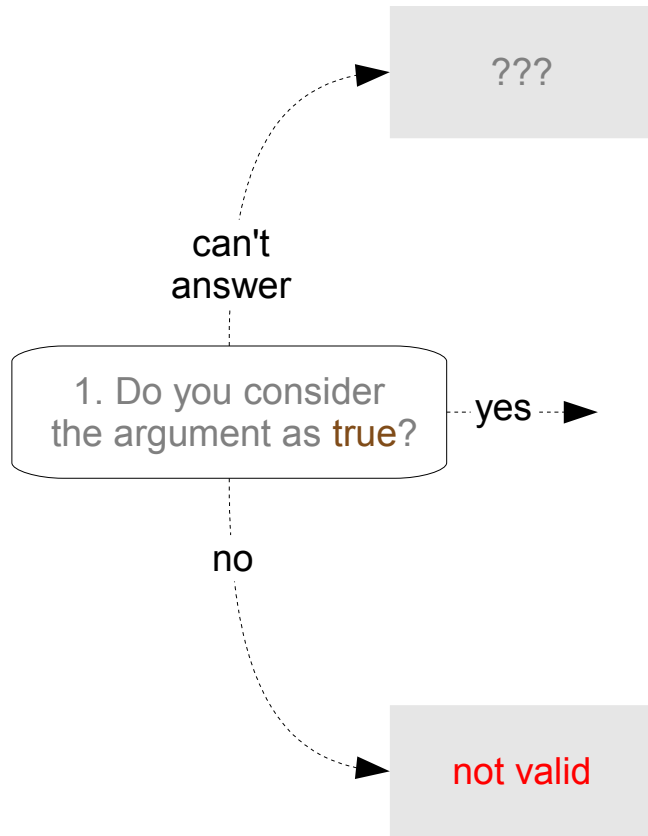


Now let's have a look
at one of these methods.



A simple and efficient way
of evaluating an argument
is to ask and answer yourself
three questions.

Argument evaluation (flowchart)



A summarized argument takes usually the form of a **statement**.

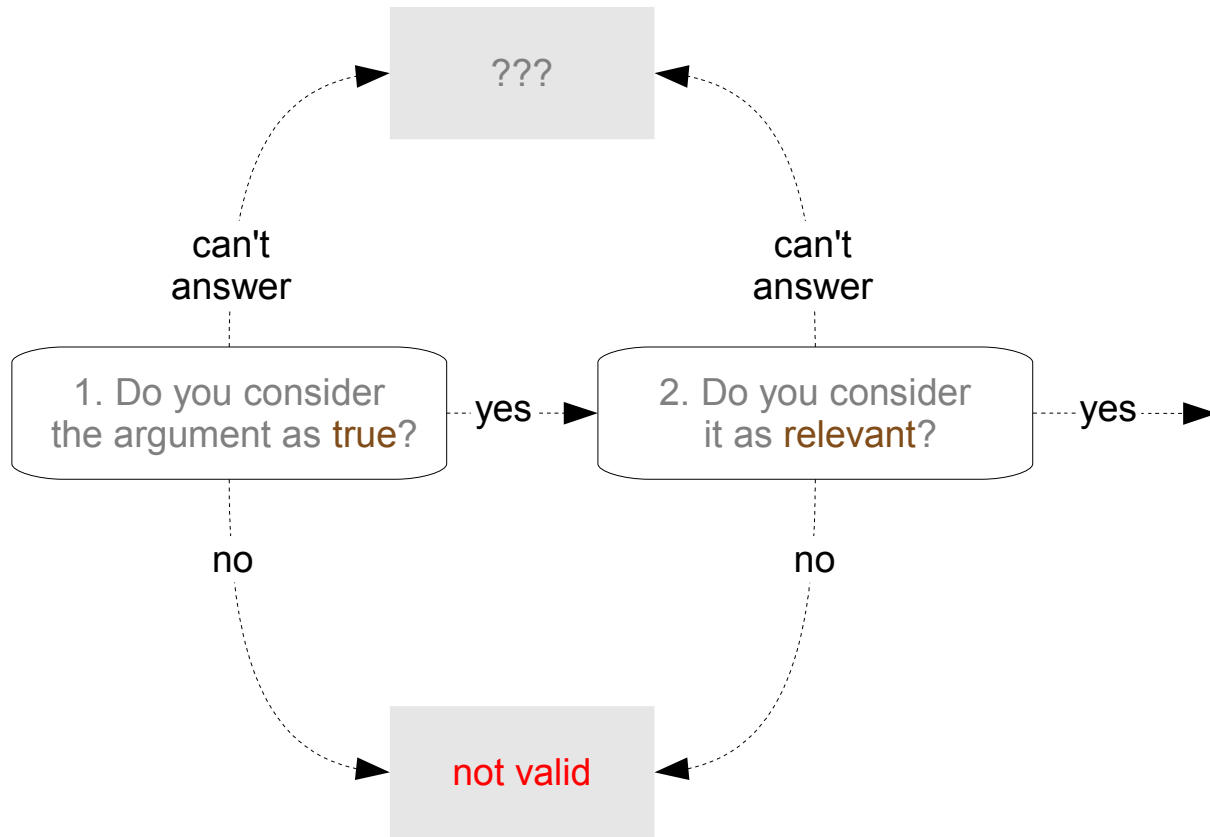
If you consider it as **true**, perhaps giving it the benefit of doubt, proceed to the 2. question (next page).

Otherwise the evaluation is completed.

Each gray box shows a possible **evaluation result**.

Fig. G.5a: argument evaluation flowchart

Argument evaluation (flowchart)



If you consider the argument as **relevant** (having a bearing on the topic), proceed to the 3. question.

Again you may give it the benefit of doubt.

Otherwise the evaluation is completed.

Fig. G.5b: argument evaluation flowchart

Argument evaluation (flowchart)

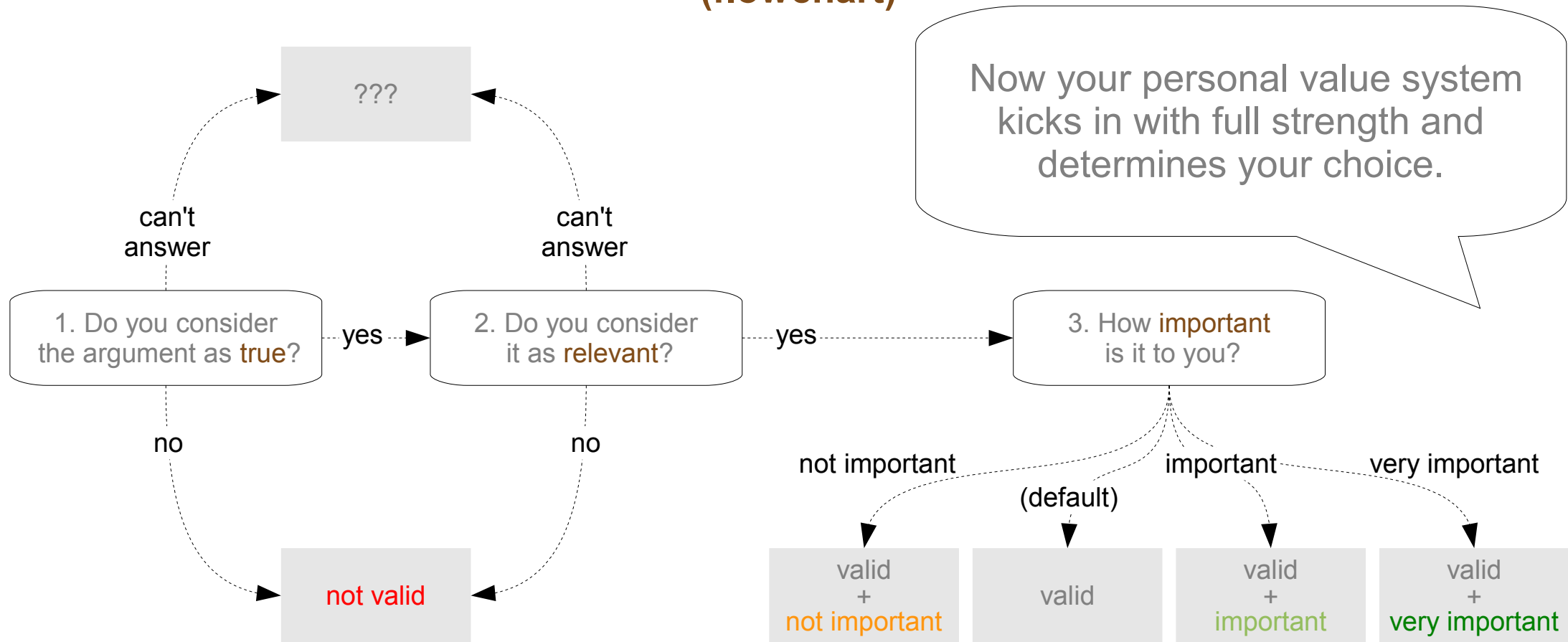


Fig. G.5c: argument evaluation flowchart

Argument evaluation (flowchart)

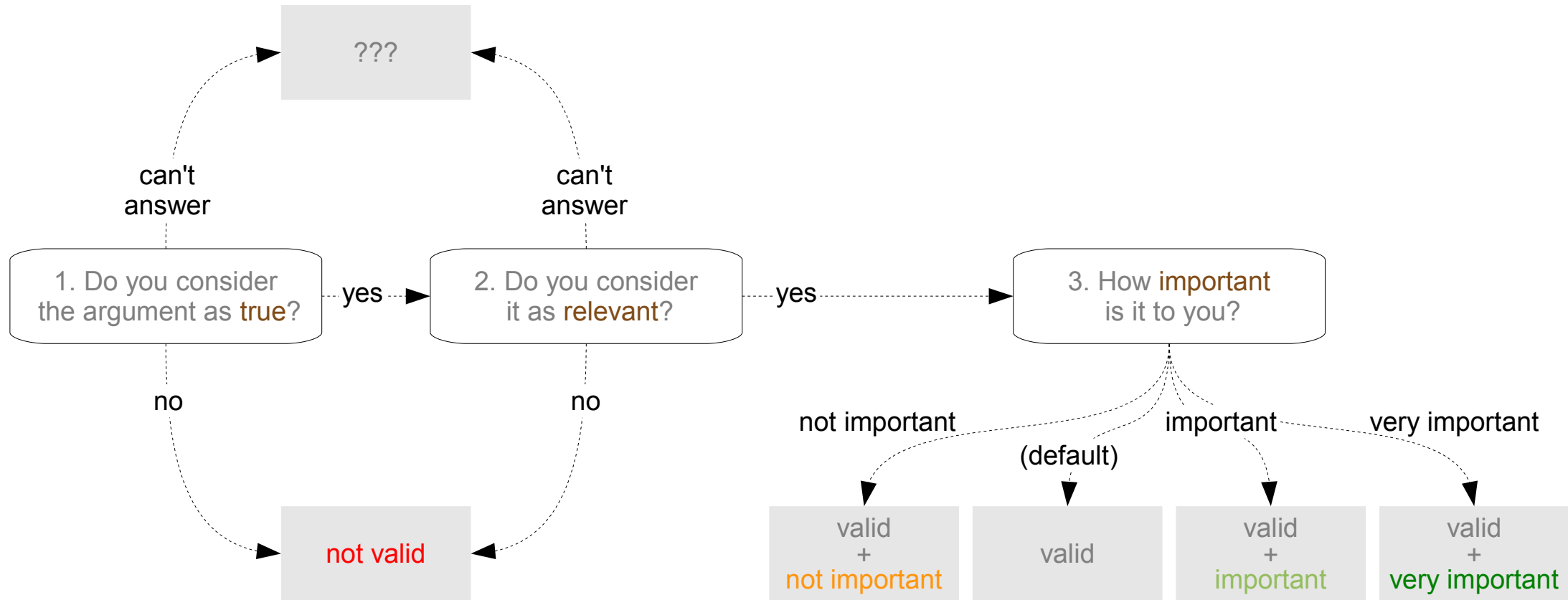


Fig. G.5d: argument evaluation flowchart

Explicit evaluation examples

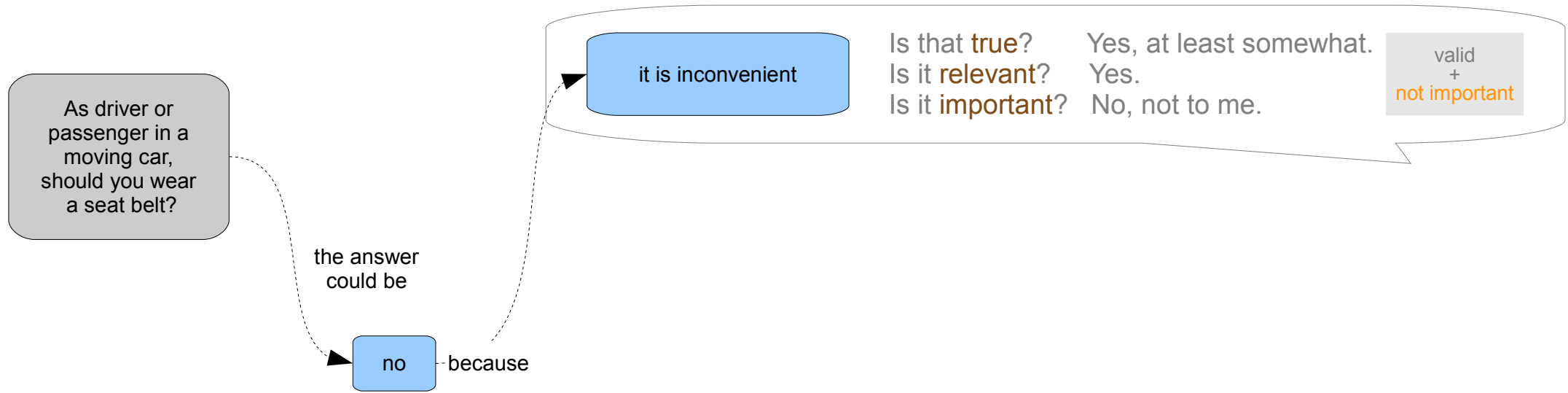


Fig. G.6a : explicit evaluation examples

Explicit evaluation examples

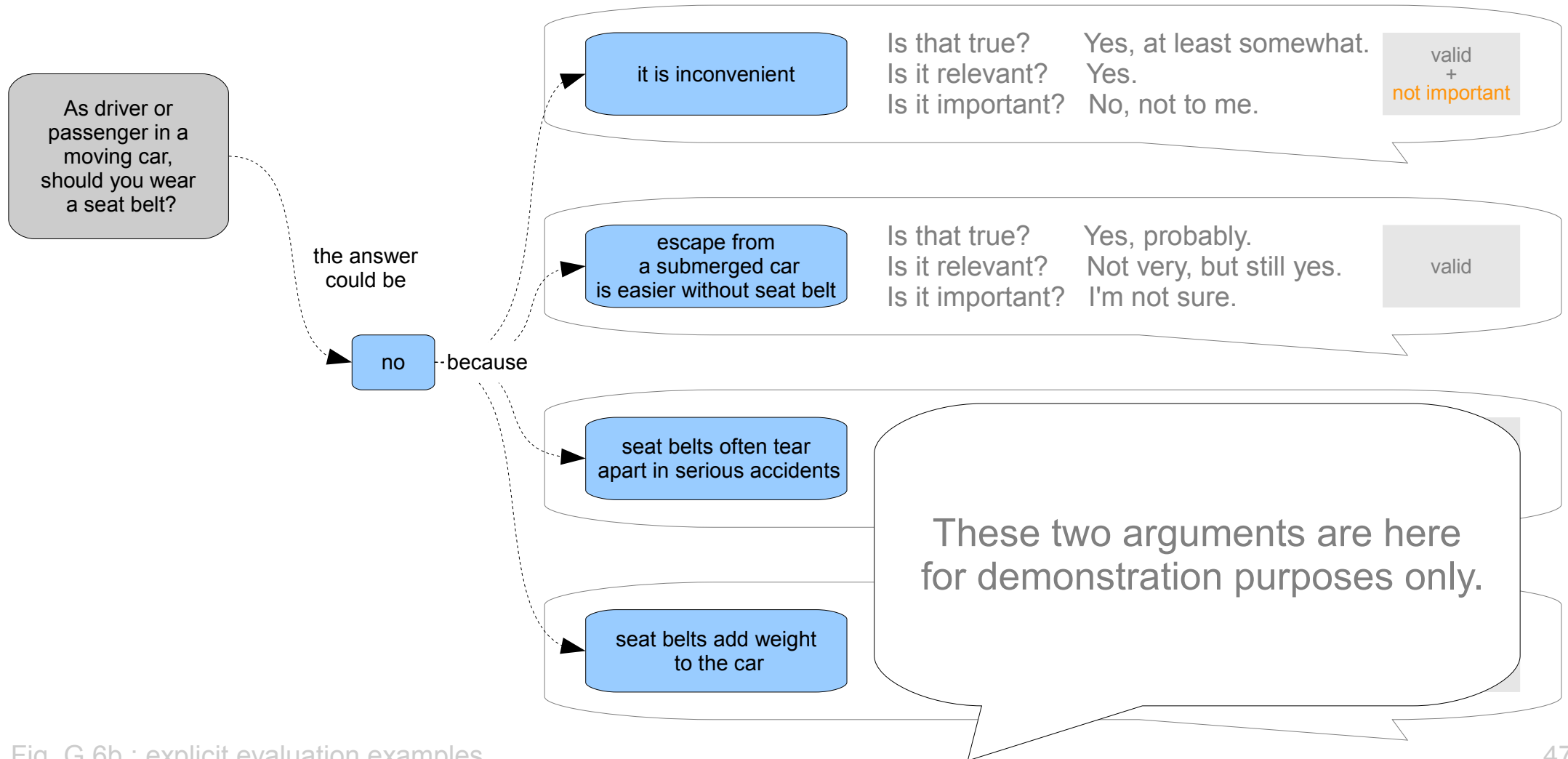


Fig. G.6b : explicit evaluation examples

Explicit evaluation examples

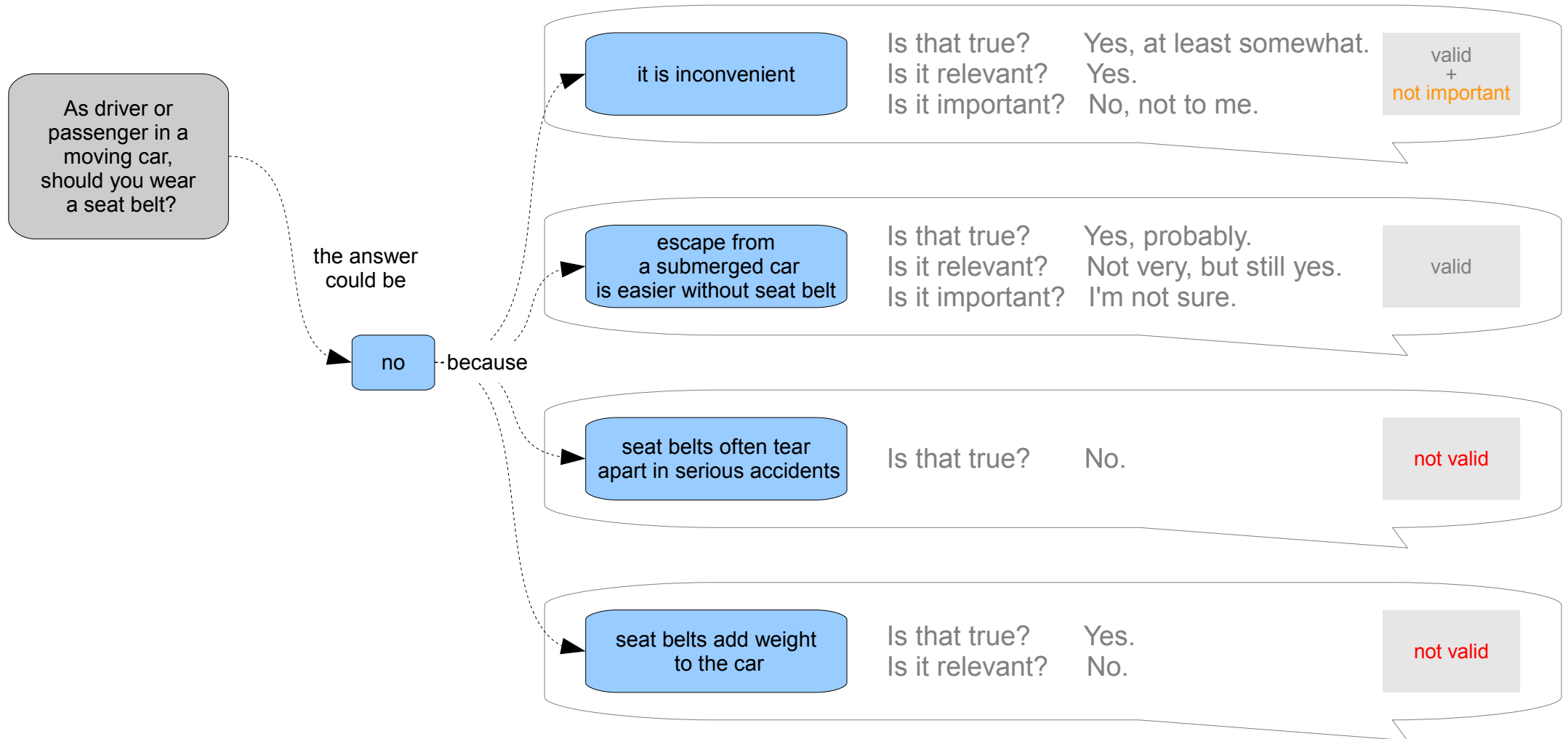
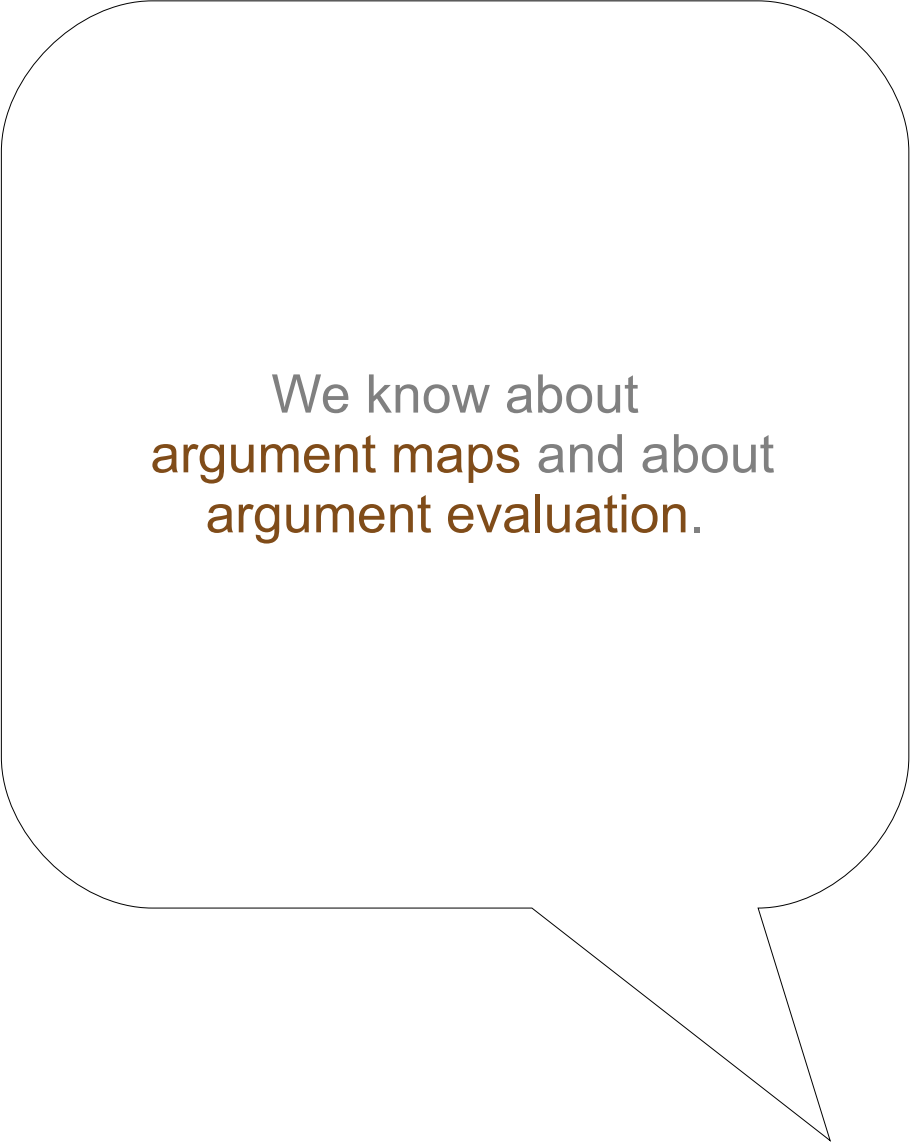


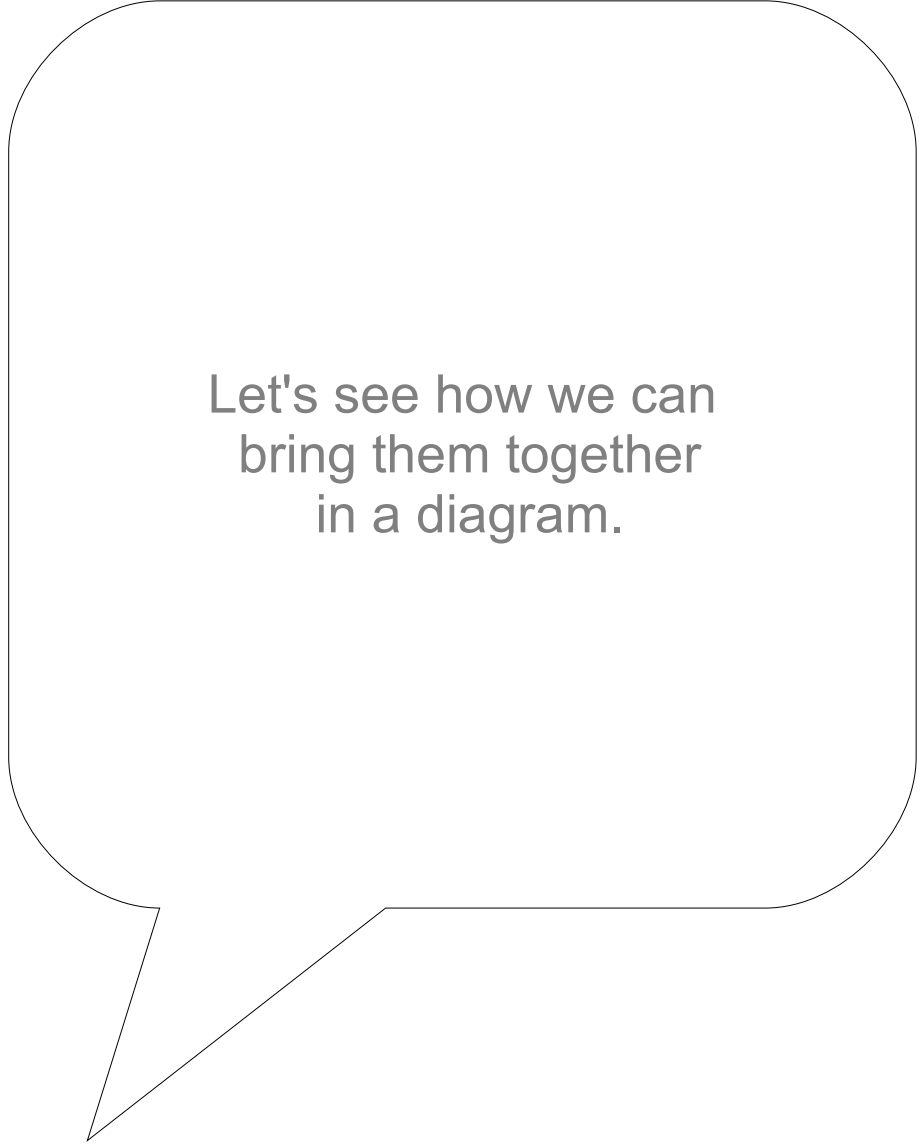
Fig. G.6c : explicit evaluation examples

Appendix G progress

Intro	done
About discussions	done
Diagrams and reality (yours or mine?)	done
Argument maps	done
Argument evaluation	done
Argument evaluation diagrams	up next



We know about
argument maps and about
argument evaluation.



Let's see how we can
bring them together
in a diagram.

Our new diagram starts out as a copy of the original argument map, but without the sub-arguments.

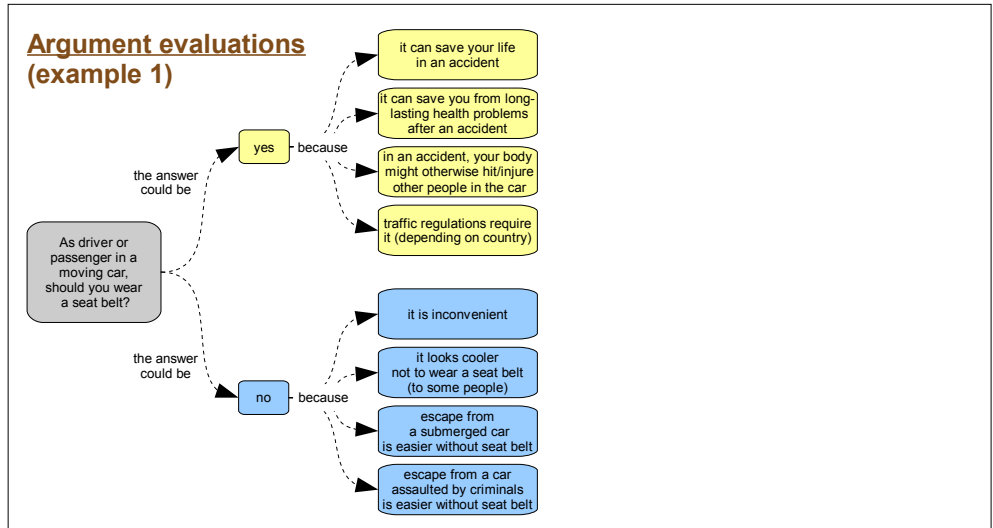
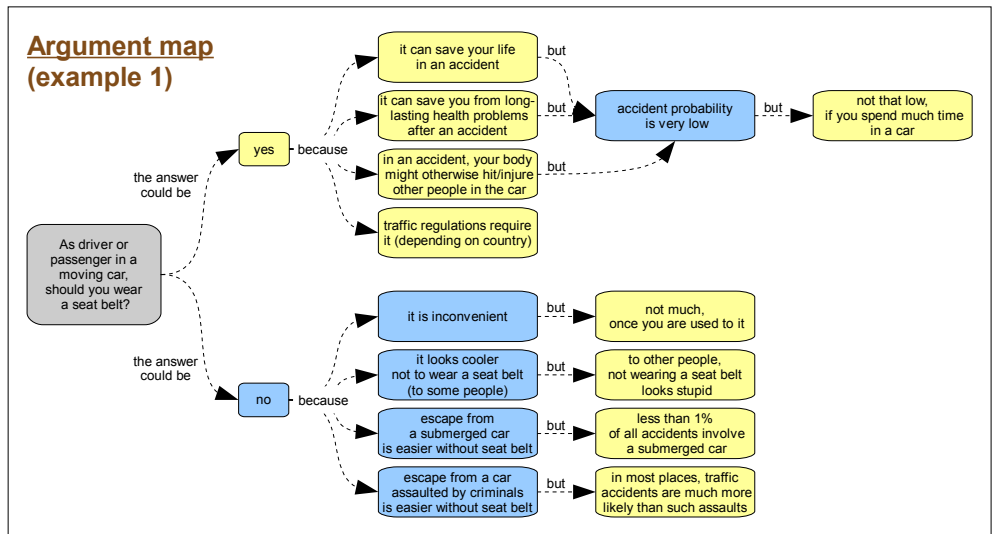


Fig. G.7a : argument evaluations diagram

Now there is room next to the main arguments. That's where we put our evaluation results.

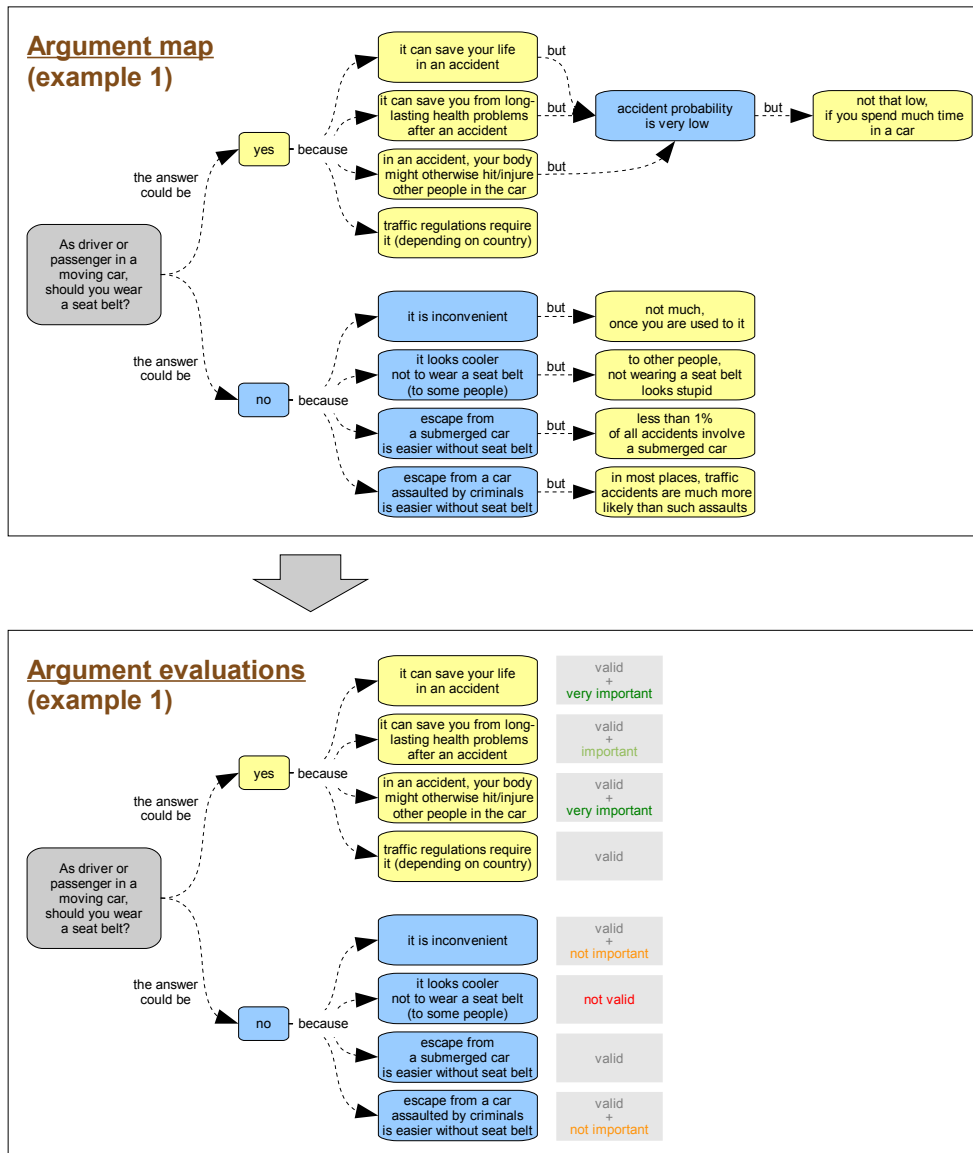


Fig. G.7b : argument evaluations diagram

Of course we must **consider all connected sub-arguments** when evaluating a main argument.

But usually we don't need to include individual sub-argument evaluations in the diagram.

This way we get a much simpler diagram than otherwise.

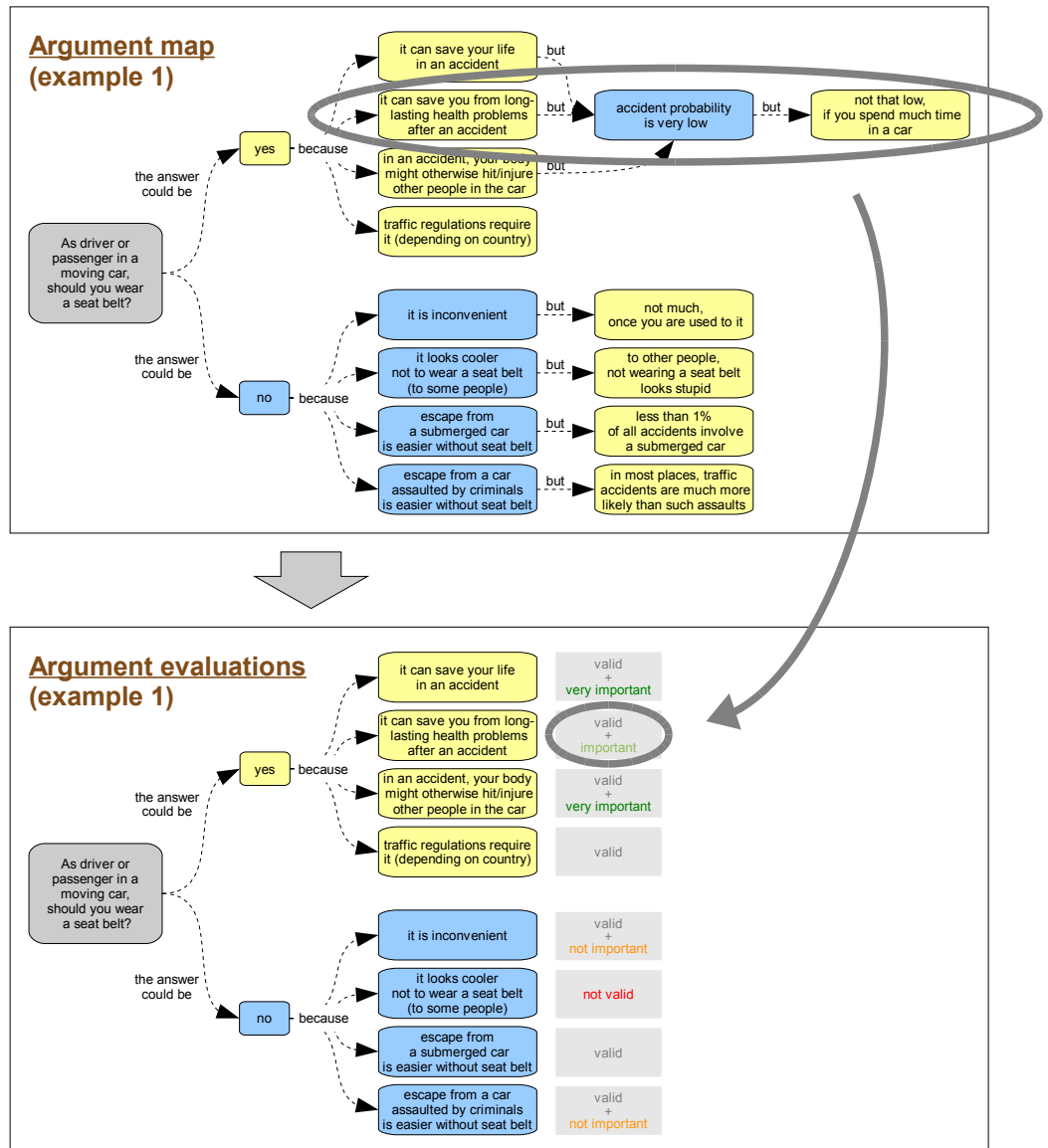
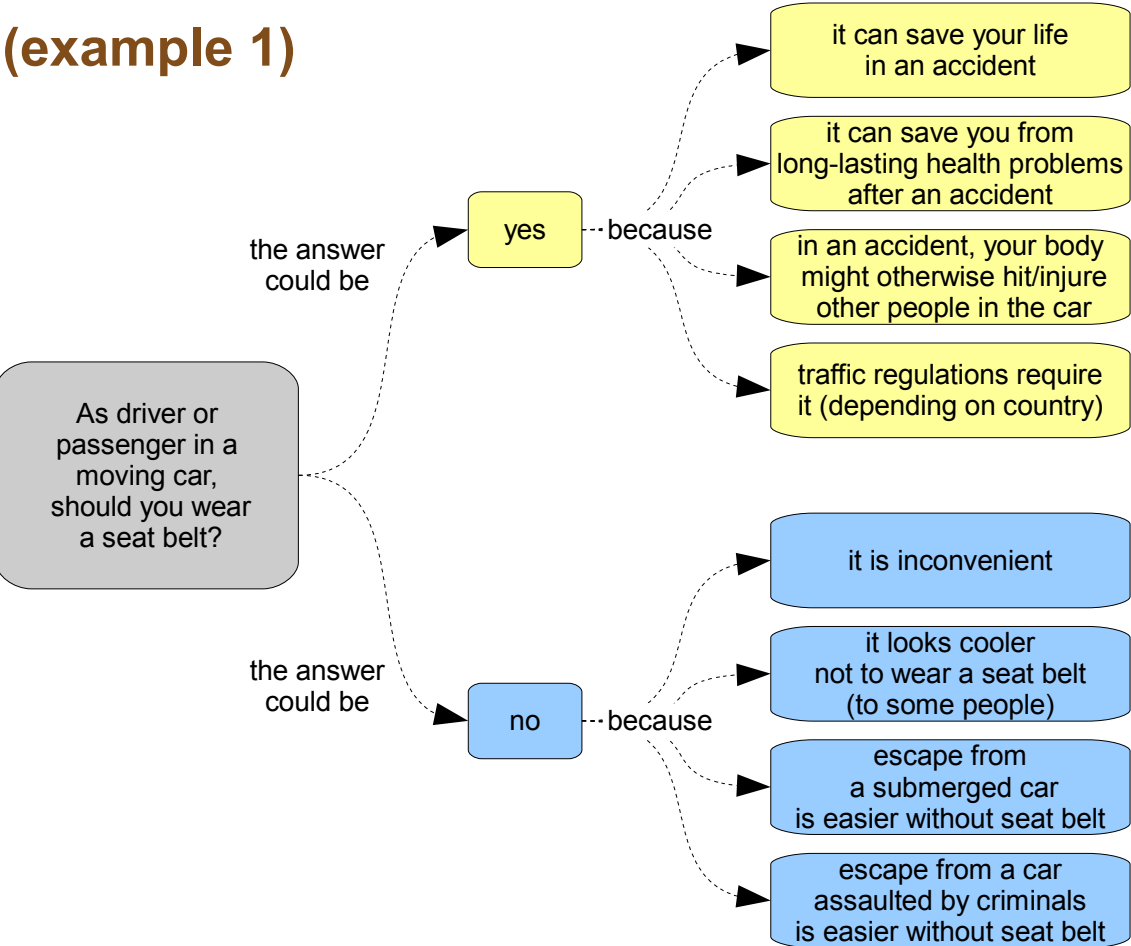


Fig. G.7c : argument evaluations diagram

Multi-party argument evaluation

(example 1)



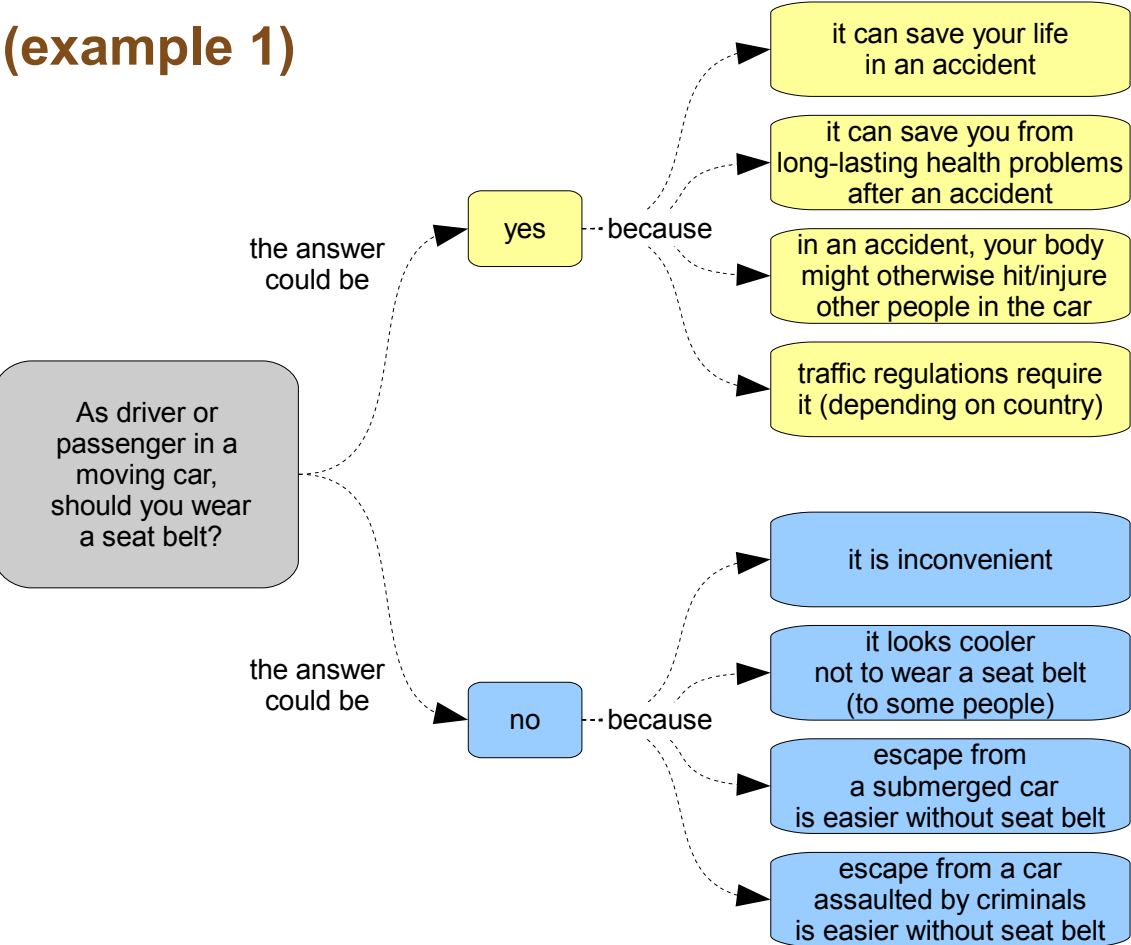
Argument evaluations, by party	
Alice	Bob
valid + very important	valid
valid + very important	valid + important
valid + very important	valid
valid	valid + not important
valid + not important	valid + important
not valid	valid + very important
valid + not important	valid
valid + not important	valid + important
conclusion: yes	conclusion: no

And there is room for more than one view.

Fig. G.8a : multi-party argument evaluation

Multi-party argument evaluation

(example 1)



Argument evaluations, by party	
Alice	Bob
valid + very important	valid
valid + very important	valid + important
valid + very important	valid
valid	valid + not important
valid + not important	valid + important
not valid	valid + very important
valid + not important	valid
valid + not important	valid + important
conclusion: yes	conclusion: no

For Alice and Bob, this diagram is both summary and endpoint of their discussion.

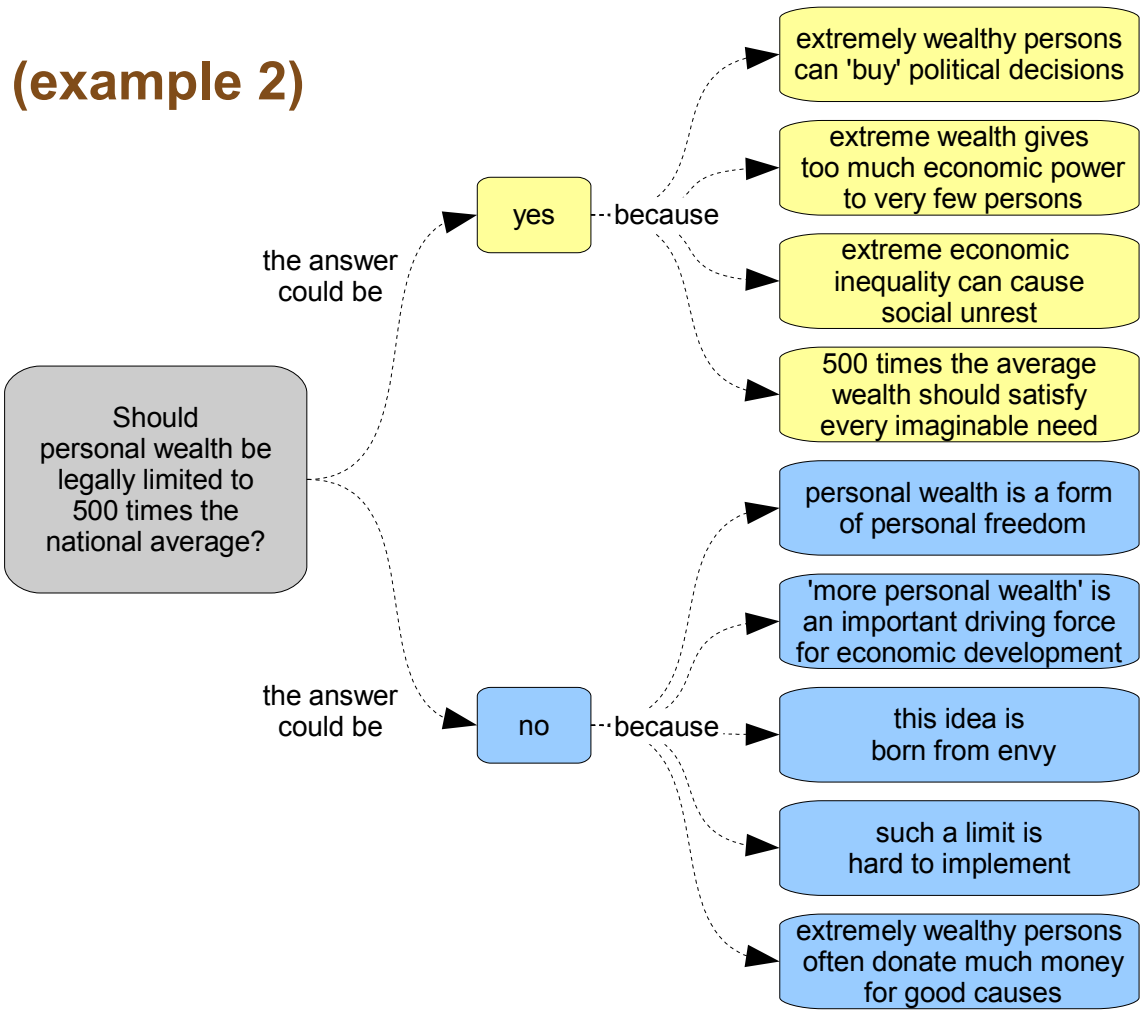
Without it, they could easily have an 'endless' discussion.

Before continuing, please read p. 472 once more.

Fig. G.8b : multi-party argument evaluation

Multi-party argument evaluation

(example 2)

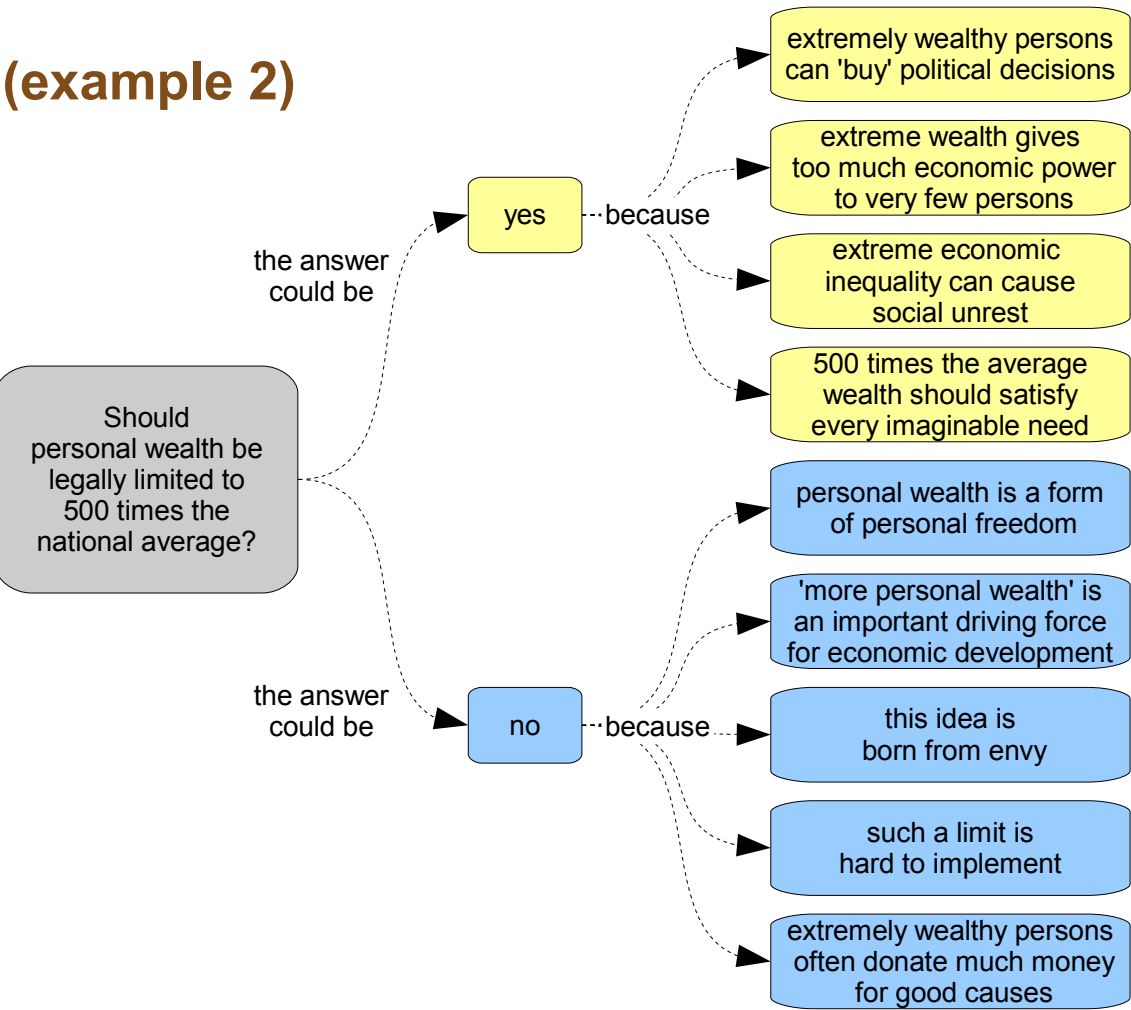


Argument evaluations, by party			
Billionaire's association	Equal influence movement	Party #3	Party #4
valid	valid + very important	-	-
not valid	valid + important	-	-
not valid	valid + important	-	-
not valid	valid		
valid + very important	valid	A second example.	
valid + very important	valid + not important		
valid + not important	not valid		
valid + important	not valid		
valid + important	valid + not important	-	-
conclusion: no	conclusion: yes	conclusion: -	conclusion: -

Fig. G.9a : multi-party argument evaluation

Multi-party argument evaluation

(example 2)



Argument evaluations, by party			
Billionaire's association	Equal influence movement	Party #3	Party #4
valid	valid + very important	-	-
not valid	valid + important		
not valid	valid + important		
not valid	valid		
valid + very important	valid		
valid + very important	valid + not important		
valid + not important	not valid		
valid + important	not valid		
valid + important	valid + not important	-	-
conclusion: no	conclusion: yes	conclusion: -	conclusion: -

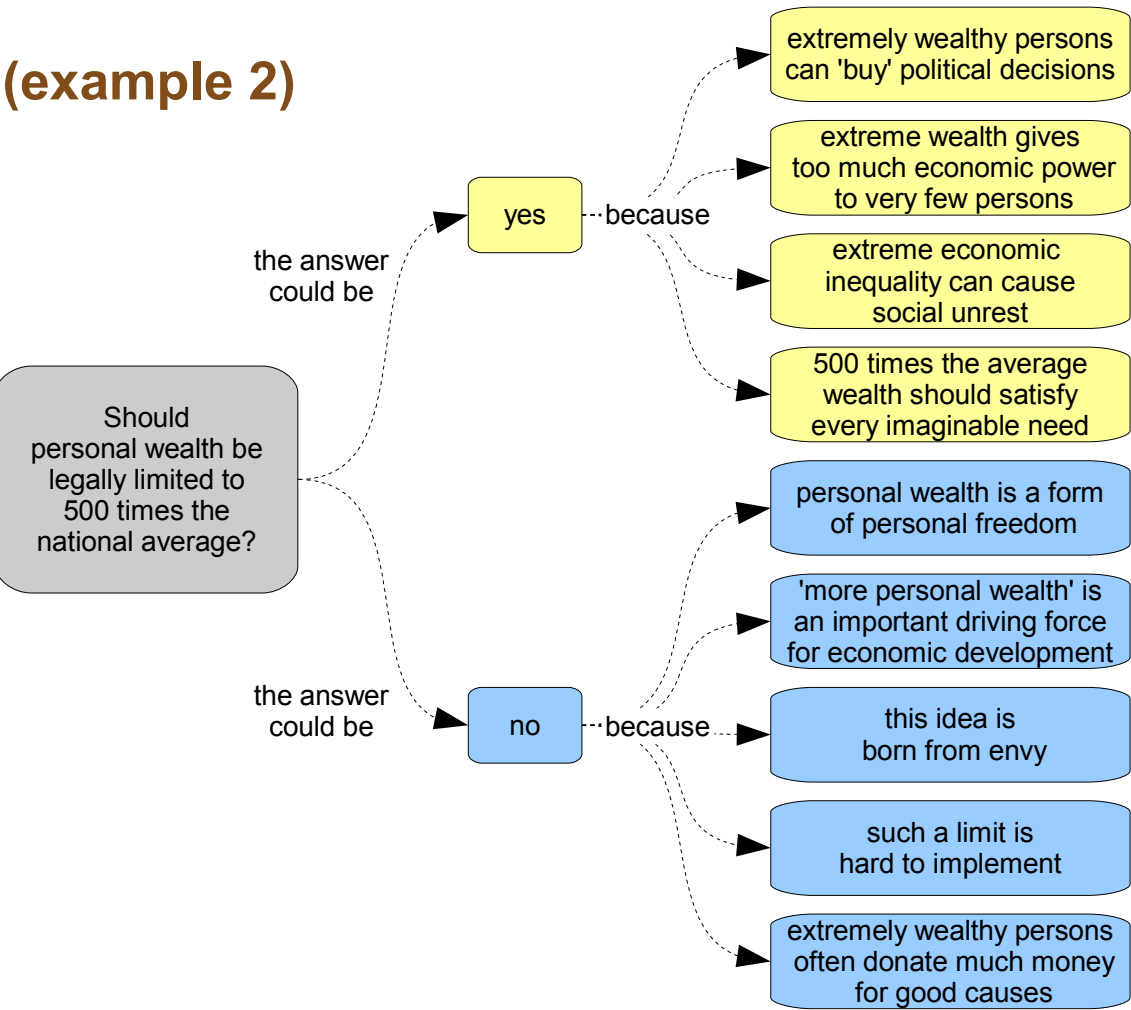
Generally, a high percentage of 'not valid' evaluations could indicate a:

- very controversial question
- closed-minded party
- bad argument

Fig. G.9b : multi-party argument evaluation

Multi-party argument evaluation

(example 2)



Argument evaluations, by party			
Billionaire's association	Equal influence movement	Party #3	Party #4
valid	valid + very important		
not valid	valid + important		
not valid	valid + important		
not valid	valid		
valid + very important	valid		
valid + very important	valid + not important		
valid + not important	not valid		
valid + important	not valid		
valid + important	valid + not important	-	-
conclusion: no	conclusion: yes	conclusion: -	conclusion: -

Note that this diagram partly reveals each party's:

- reality perception (which arguments do they see as true and relevant, hence valid?)

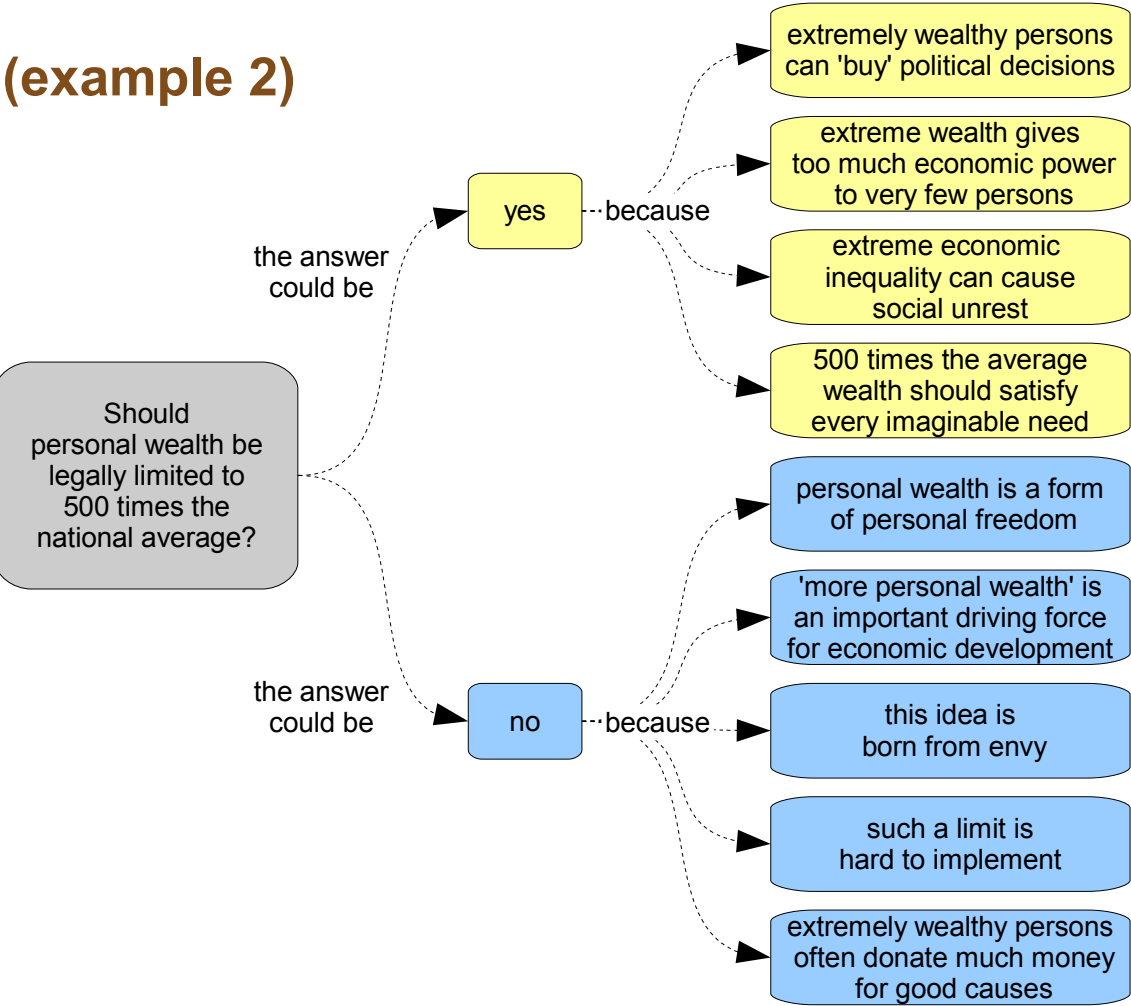
and their

- value system (how important is each argument to them?)

Fig. G.9c : multi-party argument evaluation

Multi-party argument evaluation

(example 2)



Argument evaluations, by party			
Billionaire's association	Equal influence movement	Party #3	Party #4
valid	valid + very important	-	-
not valid	valid + important	-	-
not valid	valid + important	-	-
not valid	valid	-	-
valid + very important	valid	-	-
valid + very important	valid + not important	-	-
valid + not important	not valid	-	-
valid + important	not valid	-	-
valid + important	valid + not important	-	-
conclusion: no	conclusion: yes	conclusion: -	conclusion: -

In a political context, this diagram type can serve as transparency tool.

Fig. G.9d : multi-party argument evaluation

Now let's take a step back
from the details and do some
summing up.

Many '**normal**' **discussions** suffer
from empty talk, manipulation
attempts, poor reasoning,
personal insults, hidden agendas
or lack of focus and overview.

Such discussions can
take a long time,
without giving useful results.

If the topic is important
and you can choose,
consider this alternative:

1. make an argument map
2. evaluate the main arguments
3. draw your conclusion(s)

Just for yourself, or
in cooperation with others.

In most cases you will have well-
founded results within 1-3 hours.

Appendix H

Miscellaneous

Acknowledgements, remarks, contact information

Thank you

to Helen and Eric for spending
time as test audience and for
valuable feedback.

Thank you

to everyone who has put
serious effort into creating
free quality content
for the benefit of the rest of us.

(Be that software, texts, videos,
photos, music, or something else)

Thank you

to the OpenOffice developers.

This document was created using
OpenOffice Draw 3.2.0 Portable.

Despite a few minor quirks,
it proved itself as a powerful,
non-annoying and very,
very reliable tool.

Software project suggestion

Producing decision matrices
(as shown in appendix F, p. 356)
would be much easier with
specialized software.

If that software were:

- Open Source
- very user-friendly
- very reliable
- and portable

that would be brilliant.

I would definitely be grateful.

Any developer(s) listening?

Video talk series

To reach a wider audience,
I intend to produce
material from this book as
video talks/presentations,
and to publish them on at least
one major web video portal.

That might happen
in 2014/2015, if available time
and circumstances permit.

You can **contact** me
via these e-mail addresses:

contact.e.hartel@gmail.com
e.hartels.account@outlook.com

(both established in 2013)

Be aware that they will expire
sooner or later. You may then
need to do a web search for
up-to-date contact information.

I can't promise to answer all
e-mail, and my response time
might be anything up to 3 weeks.

Not because of indifference or
rudeness, but because of limited
time available, and/or because of
circumstances beyond my control.

This is the last page
of this book.

If you've read it: Thank you.

If you are looking for the **table of contents**:
please go to page 4 and 5.